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A Clinical Lecture
ON
A CASE OF ADAMS-STOKES DISEASE

(PERSISTENT SLOW PULSE WITH EPILEPTIFORM FITS).

Delivered at the London Hospital on Oct. 28th, 1903,

BY PERCY KIDD, M.A., M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN AND LECTURER ON MEDICINE TO THE LONDON HOSPITAL.

GENTLEMEN,—The patient, a woman, aged 58 years, has been ill for about four years and complains of symptoms which may be briefly summarised as follows: weakness, fainting fits, vomiting, swelling of the feet and legs, headache, sharp pain round the heart, slight hacking cough, occasional night sweats, swelling of the abdomen at times, and increasing stoutness. She has not had rheumatic fever but she had scarlet fever when a child. Fifteen years ago she had influenza very badly; she has had it four times since but mildly. She had small-pox 30 years ago. The patient is a stout, flabby-looking woman and is very pale. She complains of dyspnœa, especially on exertion, and of fainting fits usually brought on by exertion or excitement. The first fit occurred five years ago and since then she has been unable to go out alone in consequence.

The following is a description of the fits. There is no warning; they have always the same character; the duration varies from two or three minutes to half an hour. She has had from five to six fits in a day at times, though they may be absent for weeks. Sometimes on recovering from one fit she immediately has another. She also complains of pain in the region of the heart which is described as sharp but the pain does not radiate. She often has the pain without the fits, though at times the pain comes on as the fit is passing off. The pulse on admission varied from 25 to 28. The tension was moderate and the artery was not thickened. The heart's impulse was not felt. The apex beat was apparently in the nipple line in the fifth space. Cardiac dulness was slightly increased outwards but not in other directions. On auscultation a faint systolic murmur was heard replacing the first sound in all areas; it was loudest at the mid-sternum, about the level of the third rib. The second sound was present in all areas, occasionally reduplicated. Vomiting occurred occasionally, usually after food but often on rising in the morning; it sometimes occurred as the fit was passing off. The vomit was watery, sometimes coloured yellow with bile. The urine was healthy. The menopause occurred nine years ago.

The patient's general condition did not vary much at first but a few days after admission a fit occurred and was observed by the clinical clerk, Mr. M. Wyler, whom I have to thank for his careful notes. The patient suddenly cried out, her head was retracted, the pupils were widely dilated, the face was cyanosed, and the pulse was imperceptible for 40 seconds. She was quite unconscious, her whole body being rigid and extended. Incontinence of urine occurred and as she gradually recovered retching took place. On recovery the pulse rose to 52. The whole fit lasted for five minutes. In another fit a few days later the pulse ceased for 90 seconds and this fit lasted for three minutes.

At first the patient was treated with strychnine, ether, and ammonia. Later, $\frac{1}{100}$th of a grain of trinitrine was substituted three times a day and occasional inhalations of amyl nitrite. After this $\frac{1}{30}$th of a grain of strychnine was given hypodermically three times a day. Latterly she was given thyroid extract, three grains in the day, which was gradually increased to 15 grains daily. Two ounces of whisky were allowed and the patient was put on light solid diet. She has improved in all respects since her admission. There are less dyspnœa and cardiac pain and she has only had one slight attack subsequently to the two previously described. The thyroid extract was given at the suggestion of Dr. O F. F. Grünbaum, our medical registrar who had seen it recommended by a French observer, Dr. Gautier. It is doubtful whether the improvement can be attributed to the use of thyroid extract as nitro-glycerine and strychnine were being administered at the same time. Subsequently the patient was for a time put on thyroid extract and nitro-glycerine separately and continued to improve steadily. She now takes an occasional trinitrine tabloid and has had no epileptiform attack for over two months. At times she experiences a slight pain in the cardiac region.

The foregoing curious group of symptoms was first described by Robert Adams in the Dublin Hospital Reports[1] in 1827. Adams described the following case. A man, aged 68 years, of full habit, had for a long time been incapable of exercise and subject to oppression of breathing and cough. The patient was seen as he was recovering from an apoplectic attack which had seized him three days previously. At this time he was able to go about the house but was still oppressed by stupor, a constant disposition to sleep, and troublesome cough. Adams says: "What most attracted my attention was the irregularity of his breathing and the remarkable slowness of the pulse, which generally ranged at the rate of 30 a minute." The patient's medical attendant, Mr. Duggan, gave Adams the following history. "The patient had had at least 20 apoplectic attacks in the last seven years, preceded for a day or two by vertigo and loss of memory. During the fits the pulse would become even slower than usual." (No statement as to the frequency is given here.) Death occurred in a fit six months after he was first seen by Adams. At the necropsy fatty degeneration of the heart was found. In his comments on the case Adams says: "When the heart is slow in transmitting the blood it receives we find, I imagine, even in this a means of accounting for the lethargy, loss of memory, and vertigo which attend these cases."

The next reference to this disease appears to have been by W. Stokes,[2] where he published a paper on Observations on Some Cases of Permanently Slow Pulse. The first case was thus described. "*Repeated pseudo apoplectic attacks not followed by paralysis; slow pulse, with valvular murmur.*—A man, aged 68 had a fainting fit three years previously and since then many similar attacks had occurred, at least 50 in all. These varied much in duration and intensity, being induced by sudden exertion, distended stomach, or constipation. The patient had a slight warning in the form of a sensation of a lump in the stomach, 'passing up through the right side of the neck into the head where it seems to explode and pass away with a loud noise resembling thunder, by which he is stupefied.' This is often accompanied by a fluttering sensation of the heart. No convulsions or frothing at the mouth during the fit, but he has occasionally injured his tongue. Fit seldom lasts more than four or five minutes. During the fit the patient is entirely unconscious; but he has no paralysis after any fit. He never heard that his pulse or heart was affected. He had found that spirits were the best restoratives but he had not used them latterly, being 'afraid to die with spirits in his belly.' He always feels cold unless he is near the fire. On admission there was slight cough and expectoration, and large mucous râles over the lungs. The heart's impulse was slow, dull, prolonged, and heaving, giving the idea of painful as well as slow action. The first sound was accompanied by a blowing murmur heard very distinctly up along the sternum and even into the carotid arteries; second sound also imperfect, though very slightly so. Pulse 28, prolonged, and sluggish. Arteries pulsate visibly all over the body and appear to be in a state of permanent distention. Urine sp. gr. 1010; free from albumin." The pulse varied from 28 to 30, at times rising to 36. The patient had two threatenings of a fit after admission but the attacks were warded off by turning on his hands and knees and keeping his head low. This often averts a fit. Stokes says that occasionally "some of the beats" occurred between the regular contractions unattended with impulse or pulse. Stokes did not observe any of the fits himself and the patient had no fits after admission. He was discharged improved and was lost sight of.

Stokes described briefly another case which was summarised thus: "Anæmia, very slow pulse, valvular murmur, death apparently from syncope. Post mortem, aortic stenosis was found." No further details. A third case was communicated to Stokes by Dr. Law. The patient, a man, aged 44 years, had a pulse of from 24 to 30 and suffered

[1] Vol. iv., p. 396.
[2] Dublin Quarterly Journal of Medical Science, 1846.

from apoplectic attacks, in one of which he died. No necropsy was made.

Very little attention seems to have been directed to this disease subsequently, as shown by the fact that the late Dr. J. S. Bristowe in his presidential address to the Medical Society of London in October, 1893, On the Influence of Extreme Slowness of Pulse in the Causation of Epileptiform Convulsions,[2] stated that the earliest recorded case was published in THE LANCET of 1885 by Mr. F. St. George Mivart.[3] A man, aged 61 years, had been subject to epileptic seizures for six years and the pulse varied from 20 to 26. There were a slight systolic murmur at the base and a prolonged first sound at the apex. The urine contained a trace of albumin. Mr. Mivart regarded these symptoms as "simple slowness modified by the patient's epileptic tendency." The next case Dr. Bristowe mentions is to be found in THE LANCET of the same year by Dr. A. T. Gibbings.[4] The patient, a man, aged 66 years, stated that his pulse had been intermittent as long as he could remember. He was first seen in 1882, suffering from weakness, dyspnœa on exertion and occurring spontaneously at night, and cough. The pulse was 60 and intermittent and the heart was free from murmur. Ten months later the pulse was 44 but regular. Subsequently dyspnœa and faintness appeared and the pulse fell to 34. Consultations were held with Sir Andrew Clark and with Dr. Walter Moxon. Fainting and epileptiform attacks recurred. During each attack the pulse became very slow, at times falling to 12. Towards the end it varied from 15 to 31. The first indication of an attack was the non-occurrence of the usual pulse beat. The patient died in a fainting fit ten months after he was first seen. A post mortem examination in the presence of Dr. Moxon showed that the heart and other organs were all healthy. Dr. Gibbings attributed the epileptiform seizures to anæmia of the brain and suggested that the slow action of the heart was due to an irritative lesion of the vagus or degeneration of the cardiac ganglia.

The next case was recorded by Dr. Bristowe also in THE LANCET of the same year.[5] A man, aged 31 years formerly a soldier, had had syphilis, fever, and ague in India. He was discharged after 12 years' service for "weakness of the constitution." He had never had rheumatism nor had he suffered previously from dyspnœa. Two weeks before admission into St. Thomas's Hospital he had an attack of faintness after mental excitement and the next morning he had heavy breathing. On the following evening he had shortness of breath and he lost consciousness. Since then similar attacks had recurred frequently, both night and day. The fits were preceded by faintness and followed by flushings and insensibility. He once bit his tongue. There was no pain in the chest. During his stay in the hospital fits occurred frequently and seemed to come on always after long periods of cardiac intermission, the pulse rate being 26 or slightly more as a rule. When intermission was prolonged to five seconds a fit generally followed. A loud, roaring, systolic murmur was heard above and to the right of the apex of the heart and was prolonged to the base. The fits recurred frequently. Their duration varied much but unconsciousness only lasted a few seconds. The pulse became more frequent, rising once to 80, sometimes regular, at other times very irregular. The patient lost his palpitation, dyspnœa, and fits and was discharged and lost sight of.

The fourth case was seen by Dr. Bristowe with Dr. John C. Ferrier. A widow, aged 54 years, had had acute rheumatism, followed by cardiac uneasiness one year previously. In September, 1891, she had an attack of giddiness, and similar attacks followed in which she lost consciousness. The attacks lasted a few seconds and were attended with pallor, a cessation of respiration, unconsciousness, and slight convulsions. During the attack the pulse was about 30. The attacks became more frequent and the pulse fell to 17. The urine became slightly albuminous. On the day before death the pulse became regular, from 108 to 120, but then it fell to 20 and later to 18. Occasionally a soft systolic murmur was heard at the apex, but nothing further was detected. Death occurred quietly about three months after the first fit and was preceded by a disappearance of fits for the last three and a half hours.

The fifth case was not seen by Dr. Bristowe during life but the history was obtained subsequently to the post-mortem examination. The patient had had fits off and on for about two years. On admission the pulse varied from 25 to 30, the cardiac dulness was abolished, the first sound at the apex was blowing, and the sounds at the base were weak. The pulse at times rose to 72. The fits came on when the pulse became very infrequent (from 20 to 25), but not invariably. Death occurred in a fit one month after admission. At the post-mortem examination the heart weighed 15¼ ounces. The left ventricle was hypertrophied, but not dilated. There was slight atheroma of the aorta and coronary arteries and of the mitral and aortic valves. Big toe-joints contained urate of soda.

Although this affection received little attention in England after Stokes's paper above referred to continental and American authors were well aware of its existence. Huchard in his work on cardiac disease speaks of it as the "Stokes-Adams syndrome." He regards the slow pulse as the result of changes in the vagus centre due to arterial disease and describes the affection as "the cardio-bulbar form of arterio-sclerosis." He mentions the fact that Stackler and Lannois each published a case of permanently slow pulse with syncopal attacks due to compression of the vagus nerve. Dr. W. Osler in his lectures on "Angina Pectoris and Allied States" in 1897 refers to this disease which he regards as having close connexion with angina. Dr. Osler considers that transient disturbances of the cerebral circulation are responsible for the syncope and apoplectiform attacks which remind one of the transient hemiplegia, monoplegia, aphasia, and paraplegia to which the subjects of advanced arterio-sclerosis are liable. He mentions a case fully described by Prentis of Washington of a man, aged 53 years, the subject of arterio-sclerosis who had innumerable fainting spells and a slow pulse which for two years varied from 11 to 40. The patient was delirious for some days before his death. At the post-mortem examination the heart was enlarged but there was no atheroma of the aorta or coronary arteries. Sections of the medulla oblongata showed congestion only.

Dr. Osler describes one case himself. A man, aged 46 years, who had never had rheumatism, chorea, or syphilis, had not been alcoholic, and had not been subjected to hard labour, complained of præcordial uneasiness on waking which had been coming on for two years. The patient could not lie flat on his back but could lie on either side with his head raised. There was no sharp pain in the chest but he had an uneasy sensation and a feeling of suffocation. There was no agonising sensation or palpitation. At times severe vertigo was present but not loss of consciousness. A year previously he noticed that his pulse was very slow and in the early morning it had been as low as 20 per minute. When seen by Dr. Osler his pulse was 34, the tension was increased, the up-stroke was laboured, and the wave was well sustained. Cardiac dulness was normal, impulse was not visible, and there was no abnormal pulsation. Hypertrophy was not evident. There was a systolic murmur at the aortic cartilage but no accentuation of the aortic or pulmonary second sound. The patient was relieved somewhat as regards the vertigo but his slow pulse persisted.

Huchard gives a useful classification of "bradycardia" as follows: (1) physiological (an idiosyncrasy seen in some healthy persons, for instance, Napoleon, whose pulse was said to be 44); (2) convalescence from typhoid fever, pneumonia, and other acute diseases; (3) toxic (digitalis, aconite, colchicum, opium, tobacco, tea, coffee, and uræmia); (4) reflex from the digestive organs; (5) nervous (meningitis, insanity, melancholia, neurasthenia, hysteria, epilepsy, cerebral disturbances of various sorts, lesions of the spinal cord and vagus trunks); and (6) cardiac (fatty heart, aortic stenosis, coronary sclerosis, and cardio-bulbar arterio-sclerosis).

Robert Adams who first described this affection clearly regarded the slow action of the heart as the primary factor. This view was more precisely stated by Dr. Gibbings. Huchard boldly stamps the complaint as the cardio-bulbar form of arterio-sclerosis. Dr. Osler is more cautious and would explain the syncope and other cerebral symptoms as the result of transient disturbances of the cerebral circulation analogous to the temporary paralyses that occur in arterio-sclerosis. Cases like those of Gibbings and Prentis make one hesitate to accept Huchard's view that the affection is due to organic disease of the bulbar arteries as universally true. The cases that have been described illustrate the fact pointed out by Osler that slowness of

[2] Transactions of the Medical Society of London, vol. xvii.
[3] THE LANCET, Jan. 3rd, 1885, p. 10.
[4] THE LANCET, Feb. 14th, 1885, p. 288.
[5] THE LANCET, March 7th, 1885, p. 447.

the heart's action may cause different grades of cerebral disorder, vertigo, syncope, or epileptiform attacks. The case that I have brought forward is an instance of the severest form and it is interesting to note the length of time during which in two attacks the pulse disappeared at the wrist—viz., 40 and 90 seconds. Unfortunately the heart was not examined during this period. But I repeatedly examined the heart myself when the pulse was 30 and I always found that the pulse and heart sounds exactly corresponded. This patient shows no sign of general arterial degeneration though lesions of the coronary arteries cannot be excluded. It is probable that she is suffering from aortic stenosis.

THE SIGNIFICANCE OF THE ZOOLOGICAL DISTRIBUTION, THE NATURE OF THE MITOSES, AND THE TRANSMISSIBILITY OF CANCER.[1]

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AND

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[*We are informed by the assistant-secretary and librarian of the Royal Society that excepting the summary which was sent to the "Times" the day after the paper was read any version which has already appeared in the press is an unauthorised version. We received permission to publish the paper on Monday last, Feb. 8th.—Ed. L.*]

THE object of this communication is to relate some results of the work conducted under the immediate direction of the executive committee of the Cancer Research Fund during the past year. We believe that these results will convince others of the important practical assistance which biologists generally can give in the further elucidation of certain problems of cancer which must be settled before scientific preventive and curative measures can be devised. It will also be made evident that the elucidation of cancer is something more than a problem of human pathology only. We shall adduce evidence tending to show that the wide zoological distribution, the character of the mitoses and the transmissibility of cancer are nearly related phenomena with a common basis. The fundamental significance of ascertaining the extent of the zoological distribution of cancer was recognised by the Cancer Research Fund from the first and determined the prosecution of definite lines of inquiry with all the means at the disposal of the organisation, not only with the object of eliciting new facts in regard to the zoological distribution itself, but also with the object of discovering cancer in animals well adapted to cytological and experimental observations.

Zoological Distribution.

Within the past year specimens of malignant new growths have accumulated from all the domesticated animals and from many other vertebrates. The appended list shows the abundance of the material which has thus been examined. The list includes also specimens which we have been privileged to examine through the courtesy of investigators abroad, who, subsequently to the inauguration of the Cancer Research Fund, have published descriptions of malignant tumours in the lower vertebrates. It is noteworthy that such growths have been obtained not only in domestic animals but also in animals living in a state of nature—wild mouse, codfish, gurnard. The clinical, pathological, anatomical, and microscopical characters of these new growths are identical with those found in man in all essential features, although the animals themselves are drawn from the different classes of the vertebrate phylum. A detailed histological description of the various tumours examined will not be attempted here. Only the general significance of the observations in relation to the incidence of cancer in man will be emphasised.

The great diversity of the habitat, food, and conditions of life generally of the forms in which malignant new growths occur relegates such external conditions to a subsidiary rôle in determining the incidence of the disease and shows that the essential factors must be sought in the potentialities which reside in the cells constituting the living body. The list of specimens, while giving no safe basis of deduction as to the relative incidence of cancer in the different classes of vertebrates, or of the comparative susceptibility of the different sites of the body, is extremely suggestive. The large number of epitheliomata obtained in the horse and dog indicates very clearly that malignant new growths are recognised according to the ease with which animals can be examined and the length of time they are kept under observation. The larger ratio of malignant new growths occurring in the internal organs of cows have been discovered during meat inspection at abattoirs and form a welcome corollary to the other observations. Stated generally, it may be said that malignant new growths are frequent according as animals are carefully examined, and are unrecorded in forms which are difficult to examine or do not reach old age in considerable numbers. The figures are not sufficiently extensive to determine accurately the age incidence of the various types of new growths in different animals, but a relatively higher incidence in old age is apparent.

The Phenomena of Cell-division in Malignant New Growths.

The progressive increase in size of malignant tumours is due to the division and increase in size of their constituent cells. The process of cell-division is usually indirect, mitotic division of the nuclei preceding the division of the protoplasm. The protoplasm division is frequently omitted and multi-nucleated cells are formed and these may subsequently enter on mitosis, giving rise to pluripolar figures. Amitosis or direct nuclear division also occurs, but its full significance has not yet been determined. It is, however, evident that the occurrence of amitosis does not signify degeneration. The amount of chromatin entering into the equatorial plate of the mitoses of malignant new growths had long been recognised as subject to variation (hyperchromatosis, hypochromatosis of von Hansemann, 1893), but a new light has been thrown on this phenomenon by a paper communicated to the Royal Society on Dec. 10th, 1903, by J. B. Farmer, F.R.S., J. E. S. Moore, F.L.S., and C. E. Walker, entitled "Resemblances exhibited between the Cells of Malignant Growth in Man and those of Normal Reproductive Tissues." These observers found that while the growing margin of carcinomata and sarcomata presented mitoses similar to those found in other tissues in repair and inflammation, certain cells in the deeper layers, after a slight increase in size, entered on mitosis with ring chromosomes similar to those found in the heterotype division of spore-mother cells of plants and spermatocytes of animals, and like these, with chromosomes in number only half that characteristic of the mitoses of somatic cells. Mitoses similar in character to the somatic divisions but with reduced number of chromosomes were also seen (homotype) corresponding to the divisions in the sexual generation of plants and the second ripening divisions of animals. From these observations the authors concluded that malignant new growths were virtually reproductive tissue arising in abnormal situations and possessed of an independence and power of growth like that of the testis in the mammalian body.

This striking sequence of characteristic mitoses had been found in all malignant tumours examined and was absent in those of benign character. We at once determined to communicate with the authors who with great courtesy afforded us an early opportunity to examine their preparations. It was then decided to determine how far similar phenomena were characteristic of the malignant new growths occurring in animals. The result has been a complete confirmation of Farmer, Moore, and Walker's observations in tumours from the trout (Mr. Gilruth's and Miss Plehn's cases of adeno-carcinoma), the mouse (two cases of adeno-carcinoma, Jensen's epithelioma), and the dog (mixed cell sarcoma, round cell sarcoma, squamous cell carcinoma). In the columnar cell carcinoma of the trout the phenomena were especially distinct, the small number of chromosomes[2] (24,

[1] A paper communicated to the Royal Society by Dr. J. Rose Bradford, F.R.S.

[2] The achromatic figure has always been carefully studied as a control to the observations made on the chromatin of the mitosis. When the chromosomes have been counted, this has been done on sections 5—10 μ thick, mounted in series.

ILLUSTRATION OF THE THREE TYPES OF CHARACTERISTIC MITOSES IN ADENO-CARCINOMA.

FIG. 1.—The chromosomes in the stroma mitoses are long, slender, V-shaped loops which split longitudinally, 24 in number. They are somatic in type; cf. Fig. 2 from the tumour.

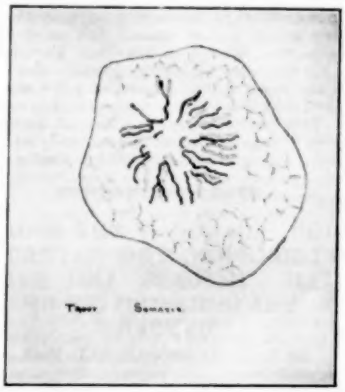

FIG. 2.—Somatic equatorial plate in margin of tumour seen from the pole. Slender V-shaped chromosomes, 24 in number, arranged transversely on the spindle showing longitudinal splitting. All the chromosomes are not reproduced in the figure.

FIG. 3.—Somatic metaphase, polar view. The angles of the V-shaped daughter chromosomes are directed upwards towards the observer and appear as two dots on deeper focussing. 24 chromosomes. (Illustrates method of counting chromosomes and is not included in the Royal Society's reproductions.)

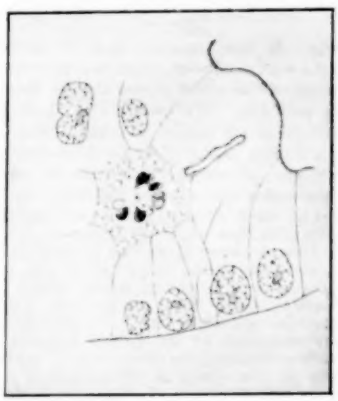

FIG. 4.—Heterotype mitosis seen from pole-chromosomes present in reduced number 12) and in the form of short thickened rings (vide Fig. 5). All the chromosomes are not reproduced in the figure.

FIG. 5.—Heterotype mitosis seen from side. Ring chromosomes in reduced number, arranged lengthwise on the spindle.

FIG. 6.—Homotype mitosis. Longitudinal split chromosomes arranged transversely on the spindle. Reduced number as in heterotype (12). All the chromosomes are not reproduced in the figure.

12), the striking contrast between the long slender chromosomes of the somatic mitoses, and the rings of the heterotype division being of diagrammatic clearness. Homotype mitoses occurred but were very few in number. Mitoses in the stroma are relatively scanty in the tumours at our disposal, but such as have been seen are somatic in character. Farmer, Moore, and Walker record a similar result. In the mouse it has been possible to compare the mitoses in the testis and those occurring in the irritation produced by iodine, with the result that the significance of the mitoses in cancer has been further confirmed.

The following points are of great importance in these observations. A complicated sequence of cell-changes has been found to be characteristic of carcinoma and sarcoma alike. This sequence is the same as that which initiates the origin of the sexual generation in plants from the asexual and is terminal in the history of the sexual cells in animals. It must be noted also that all the cells of the malignant new growths do not undergo the reducing division, a certain number differentiate in the direction of the tissue among which they have arisen, and in the secondary growths when present somatic mitoses occur in the growing margin, which it will subsequently be shown is also a feature in the growth of cancer when transferred to a new host.

The Transmissibility of Malignant New Growths from one Animal to Another.

The transmission of cancer from man to animals, or from one animal to another of different species, has never been successfully performed. Successful transplantation experiments have been made, however, from animals suffering from malignant new growths to others of the same species. The most exhaustive observations in this connexion have been made by Jensen and Borrel on mice. Professor C. O. Jensen of Copenhagen most generously placed at the disposal of the Cancer Research Fund a portion of one of his experimental tumours,[3] and with this and another tumour occurring naturally in a tame mouse similar experiments have been performed. We have thus been able to confirm Jensen's observations by microscopical examination of the tissues at the site of inoculation at short intervals and have found that the new tumours which develop arise from the actual cells introduced. While many of these degenerate a few remain of normal appearance and these gradually increase in number. In the earliest transplanations mitotic division is absent and it is not till later, when a considerable mass has arisen, that mitoses appear. The earliest mitoses we have been able to observe have been of the somatic type. Transplantation is, in fact, identical with the process of metastasis as it occurs in the individual providing the tumour. It is remarkable, however, that the tumour of Jensen's experiments does not produce metastases naturally and its malignancy is only evidenced by its progressive growth and the undifferentiated character of the cells. The process is in no sense an infection, the tissues of the new host not participating in the formation of the new parenchyma. In this interpretation we are in agreement with Jensen and differ from Borrel who conceives the results to be due to the agency of a *virus cancéreuse*.

The origin of the stroma has not been accurately determined. The power of growth of this tumour is remarkable. In every mouse in which the transplantation succeeds the new growth may attain a weight equal to that of the animal itself, and over 400 such transmissions have been effected by Jensen in Copenhagen and the Cancer Research Fund in London. A mass of tumour, 16 pounds in weight, has thus actually arisen from the original one, and that without participation of the cells of the various hosts and without manifest change in structure. This great power of growth is a phenomenon unparalleled in the mammalia and indicates the potentialities in cases in which widespread dissemination has occurred before death in a human patient.

The experimental transmission of carcinoma shows that we must distinguish between the problem of the genesis of a malignant new growth and that of the conditions which permit of its continued existence. While the conditions leading to the initiation of malignant tumours are relatively infrequent, we have examined upwards of 1000 tame mice and have discovered two with cancer; once begun, this proliferative activity can persist, given favourable conditions, for a long time unaltered and can give rise to masses of tissue of great size, having no relation to the restrictions which

[3] Sent by post under such precautions as to preserve sterility. The transplantations were effected by the Cancer Research Fund five days after the tumour was posted in Copenhagen.

List of Specimens of Malignant New Growths examined by the Cancer Research Fund during the Year 1903.

Animal.	Age.	Primary site.	Microscopic character.
Cow.	Aged.	Orbit.	Carcinoma, large polygonal cells.
,,	,,	Rumen.	Carcinoma, spheroidal cell.
,,	,,	,,	Carcinoma, squamous cell.
,,	,,	,,	,,
,,	,,	Liver.	Carcinoma, cubical cell.
,,	,,	,,	,, ,,
,,	,,	? Pleura (secondary).	Carcinoma, squamous cell.
,,	,,	? Gastric gland (secondary).	,,
Heifer.	1	Perineum.	Melanotic sarcoma.
Cow.	Aged.	Ovary.	Sarcoma.
,,	—	Suprarenal.	,,
,,	Aged.	Ovary.	Carcinoma.
,,	—	Jaw.	Osteo-sarcoma.
,,	—	Adrenal.	Sarcoma.
,,	Aged.	Liver.	Carcinoma, cubical cell.
,,	—	Bowel.	Sarcoma, spindle cell.
,,	—	Neck.	,, ,,
,,	Aged.	Face and neck.	Carcinoma, squamous cell.
Heifer.	2	Side of thigh.	Melanotic sarcoma.
Dog.	14	Mammæ.	Carcinoma (scirrhus).
,,	10-11	Upper lip.	Epithelioma.
,,	—	Testis.	Sarcoma, mixed cell.
,,	—	Upper lip.	Fibro-sarcoma.
,,	10-11	,,	Carcinoma, squamous cell.
,,	—	Abdominal gland.	Sarcoma, round cell.
,,	—	Sympathetic glands.	Fibro-sarcoma.
,,	10	Liver.	Carcinoma, columnar cell.
,,	—	Mouth.	Carcinoma, squamous cell.
,,	—	Anus.	,,
,,	12?	Leg (subcutaneous).	Sarcoma, round cell.
,,	—	Superior maxilla, orbit, gland, and lower jaw.	,, spindle cell.
,,	10	Anal tumour.	Carcinoma (sebaceous adenoma).
,,	11	Spleen, liver, and stomach.	Sarcoma, spindle cell.
,,	12	Leg.	Sarcoma, small round cell.
,,	10	Palate and cervical gland.	Carcinoma, squamous cell.
,,	—	Mammæ.	Osteo-sarcoma.
,,	10-12	Axilla.	Carcinoma, squamous cell.
Horse, gelding.	10	Penis.	Epithelioma.
,, ,,	7	,,	Carcinoma, squamous cell.
,, stallion.	15	,,	,,
Mare.	10	Vulva.	,,
Horse.	Aged.	Lung.	Carcinoma, columnar cell.
,,	10	Penis.	Carcinoma, squamous cell.
Mare.	14	Vaginal growth.	,,
Horse.	—	Parotid.	Medullary carcinoma.
Sheep.	2	Mandible.	Osteo-sarcoma.
,,	—	Liver.	Carcinoma, cubical cell.
Pig.	—	Submaxillary glands.	Sarcoma, mixed cell.
White mouse.	—	Inguinal mammæ.	Adeno-carcinoma (localised keratinisation).
Yellow mouse.	—	Axillary tumour.	Adeno-carcinoma.
Wild mouse.	—	Mammary glands.	Carcinoma, spheroidal cell.
Mouse (Jensen)	—	Leg (subcutaneous)	Epithelioma.

List of Specimens of Malignant New Growths examined by the Cancer Research Fund during the Year 1903.—(Continued.)

Animal.	Age.	Primary site.	Microscopic character.
Mouse (Borrell)	—	Axilla (subcutaneous).	Adeno-carcinoma.
,, ,,	—	Groin ,,	,,
,, ,,	—	,, ,,	,,
,, ,,	—	Jaw ,,	Epithelioma.
,, (Pick)	—	Back ,,	Adeno-carcinoma (sweat glands).
Cat.	10	Tongue.	Carcinoma, squamous cell.
Hen (Pick).	—	Floor of mouth.	Squamous cell epithelioma.
Indian parakeet.	—	Pectoral muscle.	Myxo-sarcoma.
Giant salamander (Pick)	—	Testis.	Cystic adenoma, malignant.
Cod.	—	Air-bladder.	Sarcoma, spindle cell.
Gurnard.	—	Abdominal tumour.	Adenoma, malignant.
Trout (Gilruth).	—	Floor of mouth.	Carcinoma, columnar cell.
,, (Plehn).	—	,, ,,	,,
,, ,,	—	,, ,,	,,

limit the growth of adult organisms in a large proportion of healthy animals. The phenomena of cell division, indicating a similarity to the normal reproductive tissues, may help to explain the nature of this great power of multiplication but leave the problem of cancer genesis practically untouched. They give, however, important indications of the character of the processes on whose elucidation the solution of the question depends. The wide zoological distribution of malignant new growths—its limits are not yet determined—indicates that the cause of cancer is to be sought in a disturbance of those phenomena of reproduction and cell life which are common to the forms in which it occurs. Our observations on animals show that malignant new growths are always local in origin and of themselves produce no evident constitutional disturbances whatsoever. These facts are in full accord with accumulated clinical experience in man. In connexion with diagnosis and statistics we have already emphasised the importance of the absence of specific symptoms. The evidence we have advanced that cancer is an irregular and localised manifestation of a process otherwise natural to the life cycle of all organisms probably explains why it is that malignant new growths, and their extensive secondary deposits *quâ* cancer, are devoid of a specific symptomatology.

[We desire to add the accompanying dated note because we find that conclusions which have been drawn by others are attributed to us.

Note.—We find that the guarded terms in which the points of importance are emphasised may lead to a misconception of our interpretation of the facts. The cells which have undergone the reducing division are not responsible for the active invasion of surrounding tissues nor for the production of metastases; the cells dividing somatically are responsible for both. The number of heterotype mitoses may not stand in any relation to the degree of malignancy, and their absence is only presumptive evidence of the benign character of the tumour. We postulate nothing as to the future of the cells which have undergone the reducing division, though we believe the latter to be a terminal phase in the life-cycle of cancer cells as it is in the history of sexual cells in animals. The local origin and the expansive and infiltrating growth of cancer in its relation to surrounding tissues, while respecting its own proper elements, is the criterion of its malignancy. This stamps it as belonging to a new cycle comparable in its entirety to the whole organism which it is invading rather than to any one of its tissues, reproductive or otherwise. We intentionally restricted our original statement to recording the facts and only such general conclusions as could be irrefutably drawn from them.—Jan. 25th, 1904.]

We cannot here make full acknowledgment to those who have assisted our inquiry in this country but our indebtedness may be expressed to those observers abroad who have recorded isolated instances of cancer in animals and have so generously furthered our investigations by placing material or specimens at our disposal. In particular we desire to thank Professor Borrel of the Pasteur Institute, Professor C. O. Jensen of Copenhagen, Mr. J. A. Gilruth, chief of the Veterinary Department, New Zealand, Professor Landau and Dr. L. Pick of Berlin, and Dr. Marianne Plehn of Munich. Without the generous coöperation of these and many others it would not have been possible within so short a time to have covered the extensive ground indicated in this paper.

THE ETIOLOGY AND TREATMENT OF SUPPURATION OF THE LABYRINTH.[1]

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SEPTIC disease of the labyrinth demands our most careful consideration in the first place on account of the damage which may be done to the acoustic or to the static segments of the internal ear and, in the second place, on account of the risk which exists of the pathogenic process extending to the basal meninges or to the adjacent lobes of the cerebellum. The most frequent causes of infection of the internal ear are: (1) suppurative lesions of the middle ear extending through the external labyrinthine wall; (2) suppurative processes originating at the base of the brain and extending along the perivascular or perineural sheaths of the auditory or facial nerves; (3) deposition of pathogenic organisms by the general blood stream in some portion of the internal ear; and (4) injuries. The most frequent, and from the practical point of view the most important, cause is extension from the cavity of the middle ear. In the great majority of cases due to this particular cause perforation into the labyrinth has taken place either as the result of erosion of the bony labyrinthine wall or as the result of maceration of the fibrous structures uniting the foot-plate of the stapes to the margins of the foramen ovale or of the membrana secundaria covering the fenestra rotunda.

Perforations leading into the cavity of the internal ear may also be of traumatic origin as in cases of fracture of the base of the skull, direct injuries—e.g., foreign bodies introduced into the meatus—or as the result of operative interference, the labyrinth being opened either intentionally or accidentally. The virulence of the infection and its exact exciting cause determine to some extent at least the nature, extent, and behaviour of the resulting inflammatory process. In cases which run a slow and almost painless course a cario-necrotic process is induced which may result in the whole or considerable portions of the labyrinth being exfoliated in the form of sequestra. In such cases the disintegrating process is frequently of a tuberculous nature. In other cases, however, the infective process may be so acute as to lead to the rapid transference of infective organisms along the perivascular or perineural sheaths of the auditory or facial nerves to the base of the brain.

The frequency of labyrinthine suppuration is difficult to gauge, partly because in most clinics sufficiently detailed statistics are but rarely kept and partly because the attention of the profession has not as yet become sufficiently focussed upon this particular complication of middle-ear disease as a factor in the production of high degrees of deafness and of intracranial involvement.

The route of most frequent infection from the middle to the internal ear is through a fistulous tract in the horizontal semicircular canal and the second most important pathway is through the fenestra ovalis. In a recent paper by Victor Hinsberg out of 198 cases of labyrinthine suppuration collected by him from various sources the pathway of infection was definitely established in over 60 cases. In 27 a fistula was found in the horizontal semicircular canal, in 17 the infective organisms had entered the internal ear by way of the fenestra ovalis, in two by way of the fenestra rotunda, in three through both windows, in seven a fistula was found in the pars promontoria, and in eight through the posterior or superior semicircular canal.

Labyrinthine suppuration is rare as the result of acute

[1] A paper read before the Otological Society of the United Kingdom on Feb. 1st, 1904.

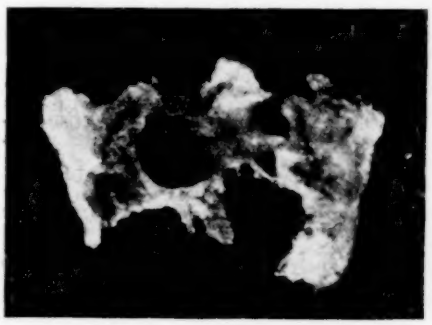
middle-ear sepsis and for precisely the same reasons as intracranial complications are comparatively uncommon after acute suppurative otitis media. Considerable time is required before the invading army of micro-organisms is able to penetrate the dense bony capsule of the labyrinth or the compact strands of fibrous tissue which close in the fenestræ. The precise point of invasion and the virulence of the pathogenic process determine the particular segment of the internal ear which is involved and the extent of the involvement. In 18 cases out of a total of 89 collected by Hinsberg the labyrinthine involvement was due to acute otitis media; in 71 to chronic disease. In 21 of the 71 cases following chronic suppurative otitis media cholesteatomata were present. In some cases the septic process becomes localised to the region of the semicircular canals, to the vestibule, or to the cochlea. Usually, however, the contiguity of these various segments determines their almost simultaneous infection. Circumscribed necrosis most usually affects the external lamella of the pars promontoria which is thrown off in the form of a thin plate of bone. Occasionally the whole or a considerable portion of the cochlea may come away as a sequestrum. In other cases portions of the semicircular canals become detached and exfoliated. The accompanying illustrations (Figs. 1, 2, and 3) show a

FIG. 1.

Sequestrum consisting of portion of horizontal semicircular canal from patient suffering from labyrinthine suppuration. Vertigo was a very pronounced symptom.

portion of the cochlea and of the semicircular canals removed by operation from a male patient who had suffered from chronic suppurative middle ear disease for over 20 years and whose main symptoms before admission to hospital had been deep-seated pain in the head, severe attacks of vertigo, and profound deafness upon the affected side. A radical mastoid operation was performed and extended into the labyrinth

FIG. 2.



Large sequestrum consisting of portions of the three semicircular canals.

where the sequestra were found imbedded in soft granulation tissue. After removal marked improvement in the general and local condition of the patient at once set in. In tuberculous disease of the middle ear this particular portion of the external labyrinthine wall is frequently invaded. Of 33 cases of labyrinthine tuberculosis collected by Barnick both fenestræ were found perforated in five cases, the oval window alone in two, and the round window alone in three.

When the inflammatory process remain circumscribed the round celled infiltration which takes place becomes ultimately organised with the result that the spaces existing in the internal ear become filled up by a dense fibrous tissue which ultimately becomes ossified. Once the labyrinth has become the site of purulent invasion the risks of extension to the base of the brain are obvious. The normal pathways which exist between the internal ear and the basal meninges are the tracts along which pathogenic organisms travel. In the great majority of cases infection

FIG. 3.

Sequestrum consisting of portion of cochlea from case of labyrinthine suppuration.

from the labyrinth attacks structures within the posterior fossa. A few cases, however, are on record where the pathological process has caused carious erosion of the anterior crus of the superior semicircular canal with the result that the middle cranial fossa becomes opened up and infected. Most usually the resulting intracranial infection takes the form of a diffuse suppurative pia arachnitis. Occasionally it remains as a localised process—e.g., an extradural abscess in the posterior fossa or over the tegmen tympani in the middle fossa. The contiguous portions of the lateral lobe of the cerebellum are also prone to become infected. Undoubtedly a large proportion (probably from 20 to 30 per cent.) of the cerebellar abscesses met with in practice are due to labyrinthine infection.

Septic invasion of the labyrinth may run an acute or a chronic course. When acute, certain striking symptoms present themselves. Thus deep-seated boring pain is complained of, there are a rapid elevation of temperature and other febrile indications, sickness or nausea is almost invariable, and vertigo is so pronounced as to necessitate the patient's remaining in the horizontal position. Nystagmus either in the vertical or in the horizontal plane is common, whilst rapid and at times complete nerve deafness is almost invariable. In the more usual class of case, however, the invasion of the labyrinth runs an almost chronic course, the external labyrinthine wall slowly crumbling away as the result of repeated micro-organismal attacks. In such cases symptoms, although fairly characteristic, are not nearly so well marked as in acute infections. Pain is frequently absent, vertigo is not so pronounced, often being more of the nature of a swimming sensation in the head, there is slight if any elevation of temperature, and sickness is by no means constant. The existence of these symptoms combined with a rapid onset of nerve deafness and the frequent presence of nystagmus should at once attract attention to the probability of the internal ear being affected. Another important symptom is the presence of facial paresis or paralysis. Facial paralysis supervening in the course of a chronic suppuration of the middle ear is always a signal of the presence of deep-seated disease. Too often, I think, it is regarded as an indication of middle-ear disease. I am satisfied from clinical and from post-mortem experience that its onset frequently indicates a labyrinthine lesion, the nerve being implicated in its passage through the pars petrosa and before it has reached the cavum tympani. In exceptional cases where the process is localised the symptoms will depend upon the particular portion of the internal ear which is involved—viz., the static or the acoustic segments. Where the cochlea is involved symptoms referable to disease of the terminal filaments of the auditory nerve will be present. Thus tinnitus is always complained of, whilst a varying amount of loss of perception for high tones will be met with according to the extent and situation of the existing lesion. In the great majority of cochlear lesions high degrees of deafness are found. Should the suppurative process, however, be confined to the region of the semicircular canals or vestibule the predominant symptoms will be vertigo, nystagmus, and intermittent attacks of nausea or actual sickness. In 57

out of 97 cases of uncomplicated fistula of the horizontal semicircular canal Jansen found marked vertigo to be present, whilst Lucae in 30 out of his 50 cases found the same conditions prevailing.

In localised suppuration of the semicircular canals or vestibule a fair degree of hearing may exist. The occurrence of rapidly advancing nerve deafness in a case of chronic suppurative disease of the middle ear should at once direct attention to the probability of labyrinthine involvement. If accompanied by vertigo, attacks of sickness, nystagmus, and constant tinnitus, the diagnosis is, of course, rendered somewhat easier although the possibility of a concomitant lesion of the cerebellum must not be lost sight of. In actual practice we have to deal with cases where the lesion secondary to the middle-ear infection is confined to the labyrinth, probably a much more frequent condition of affairs than is usually supposed, where it is confined to the cerebellum and where both a labyrinthine and a cerebellar lesion coexist. An accurate differential diagnosis is at times a problem of the utmost difficulty, the symptoms being in many cases so similar.

In uncomplicated labyrinthine suppuration without any intracranial lesion greater degrees of nerve deafness are usually present, vertigo is more of the nature of the subjective sensation of extreme dizziness than of that form of staggering gait known as the cerebellar gait, sickness and prostration are less marked, occipital pain and retraction of the head are absent, optic neuritis, which is present in about 70 per cent. of the cases of cerebellar abscess, is also absent, whilst the dull and somnolent condition of the patient is more suggestive of a cerebellar than of a labyrinthine lesion. In addition the peculiar coiled-up position of the patient when lying in bed and the occasional existence of motor paresis or paralysis of the same side of the body are highly suggestive of a cerebellar abscess. Nystagmus is comparatively common in labyrinthine suppuration. Jansen and Lucae found it present in all their cases of traumatic perforations. Jansen also found it present in 24 out of 97 cases of carious perforation—practically 25 per cent.—whilst Lucae found it present in 31 per cent. of his cases of fistula of the external semicircular canal.

The coexistence of cerebellar abscess with labyrinthine suppuration, although by no means uncommon, is extremely difficult of diagnosis and is frequently only found out in the course of operative procedures or as the result of the after history of the case. The following notes present a typical picture of an uncomplicated case of labyrinthine suppuration.

CASE 1.—The patient, a male, aged 29 years, had suffered for 11 years from profuse discharge from his left middle ear following a severe attack of scarlet fever. The discharge was fœtid and blood-stained. The hearing power had for long been much impaired and had become rapidly worse a few weeks prior to the patient being seen in consultation. Severe vertigo was complained of and on two occasions vomiting had occurred quite suddenly and quite independently of the partaking of food. No definite pain either in the ear or in the head was complained of but the patient felt ill and was quite unable to follow his usual occupation. When first seen the following notes were made: "Patient pale and anæmic, tongue thickly furred, bowels constipated, temperature 97·8° F., pulse 70. Left auditory meatus blocked by a large œdematous polypus in a bath of putrid pus. Bare bone felt by means of a probe in the depths of the meatus. Hearing upon affected side one-sixtieth of the normal. Tuning-fork tests show want of perception for high tones; no nystagmus; no optic neuritis." Under chloroform anæsthesia a complete radical mastoid operation was performed and a careful toilet of the external labyrinthine wall was made. The stapes was found imbedded in granulation tissue and when gently grasped with a pair of forceps at once came away. Succulent granulation tissue was seen to fill the vestibular cavity. By means of a small burr the fenestra ovalis was carefully enlarged and a quantity of disorganised tissue was removed from the vestibule. Either during the enlargement of the fenestra ovalis or during the subsequent process of curetting the facial nerve was injured and for a short time after operation facial paresis existed. This, however, ultimately entirely cleared up. The cavity thus made in the labyrinth was lightly packed and the subsequent treatment of the radical mastoid operation was carried out upon recognised principles. The patient made a good, although slow, recovery and is now at work as usual. All vertiginous symptoms disappeared after the operation. He is, however, completely deaf upon the affected side.

To illustrate the practical difficulties encountered in making an accurate diagnosis where labyrinthine and cerebellar suppuration coexist the following case, which was diagnosed as one of labyrinthine suppuration, may be cited. Unfortunately the possibility of a coexisting cerebellar abscess was not entertained at the moment. Four days after the labyrinthine operation, however, a cerebellar abscess was opened but with an unsuccessful result.

CASE 2.—The patient, a male, aged 33 years, was admitted to hospital complaining of deep-seated pain in his left ear, marked vertigo, and constant nausea. Examination showed chronic left-sided purulent otitis media, deep-seated caries, bone granulations, and severe nerve deafness upon the affected side. The temperature on admission was 102° F., the pulse was 64, and the respirations were 20. For three or four days prior to admission the patient had complained of severe dizziness and on two or three occasions he had been sick. A diagnosis of labyrinthine suppuration was made. Under an anæsthetic a complete radical operation was performed, the facial spur being freely removed so as to gain a good view of the external labyrinthine wall. A fistula was at once seen in the region of the horizontal semicircular canal leading into the internal ear. A small sequestrum was scooped out and some succulent granulation tissue was removed with the curette. The after treatment was conducted upon ordinary principles. The patient did not, however, rally from the operation as was expected. The temperature became subnormal (96·4°) and he sank into a dull, listless, and apathetic mental condition. Occipital pain increased slightly and one or two attacks of vomiting during the two days subsequent to the operation made it evident that some other complication existed. It was accordingly decided to explore the adjacent portion of the cerebellum. Four days after the first or labyrinthine operation the cerebellum was opened and an abscess occupying the anterior portion of the left lateral lobe was at once found. After evacuation of pus and a few shreds of disorganised brain tissue a drainage tube was inserted. The patient, however, did not rally and he died on the following day. Unfortunately, a post-mortem examination could not be obtained.

In this case had a correct diagnosis of labyrinthine plus cerebellar suppuration been made and had both purulent foci been evacuated at the same time the result might have been different. On the other hand, the symptoms of labyrinthine suppuration may so resemble symptoms of cerebellar abscess as to lead to the diagnosis of a mixed lesion when the labyrinth is the part alone involved. The fact also that in suppurative labyrinthitis the amount of cerebro-spinal fluid is increased with a corresponding increase of intracranial tension, as evidenced by depression of the various vital centres, slow pulse, subnormal temperature, and slow respiratory movements, tends materially to increase the difficulties of differential diagnosis. The following case illustrates this point.

CASE 3.—The patient, a male, aged 31 years, had suffered for many years from left-sided suppurative middle-ear disease. For some days prior to being seen in consultation he had complained of marked vertigo, pain in the head, and general lassitude. Upon examination a small perforation was found in the upper and posterior part of Shrapnell's membrane. The discharge, which was scanty, was very offensive. His hearing power measured $\frac{1}{10}$ of the normal and tuning-fork tests pointed to labyrinthine involvement. The attic was carefully cleansed by means of an attic syringe, leeches were applied round the ear, and a large dose of calomel was ordered. The effect upon the patient's symptoms was practically *nil*. When seen again ten days afterwards he was lying in bed complaining very much of pain in his head and neck, of great photophobia, of sickness, and of swimming sensations whenever he moved in bed. The temperature was 97·4° F., the pulse was 56, and the respirations were 16. Marked horizontal nystagmus was present. There was no optic neuritis. The mental condition of the patient was such as to arouse the suspicion of a cerebellar abscess being present and operation was advised. The preliminary steps were as in the previous case and a free opening was made into the labyrinth through the region of the horizontal semicircular canal by the enlargement of a small fistula which was found. A disc of bone was then removed over the left cerebellar lobe and the dura mater was incised. A very free flow of cerebro-spinal fluid took place,

the amount being obviously much in excess of the normal and under considerable tension. The cerebellar lobe was explored in four different directions but no pus was found. The patient made an uninterrupted recovery and is now in the enjoyment of excellent health. His hearing upon the affected side, which previously to operation had measured $\frac{1}{25}$, is now quite gone, the labyrinthine operation having destroyed the little that he formerly possessed. The case was thus one of suppurative labyrinthitis complicated with a serous meningitis.

In such cases lumbar puncture might prove to be an aid to diagnosis. Where a perfectly clear fluid escaping under tension is drawn off a serous meningitis may be assumed to exist. Where, however, the fluid escaping under tension is turbid and microscopically is found to contain micro-organisms and pus cells the existence of a purulent meningitis is certain.

PROGNOSIS.

In all cases of labyrinthine suppuration the prognosis is necessarily grave. The ever-present proximity of the pia-arachnoid membranes and the intimate relationship which exists between the subarachnoid cavity and the perilymphatic and endolymphatic spaces necessarily render the spread of septic processes from the internal ear to the base of the brain by no means improbable. The relation also of the corresponding cerebellar lobe to the posterior surface of the pars petrosa is another factor always to be remembered. Various other points must also be considered—viz., the acuteness or otherwise of the inflammatory process, its particular cause and nature, its extent and situation, and the age of the patient.

So far as the function of audition is concerned it will be found that in the great majority of cases irreparable damage is done, whilst in some cases complete destruction of the internal ear and auditory nerve takes place. In acute cases suppuration may come to an end spontaneously. Healing may then result, the affected portions of the internal ear filling up with granulation tissue which subsequently undergoes ossification.

In chronic cases the risk of extension to the base of the brain or to the adjacent cerebellar lobe must always be borne in mind and this risk is the greater the younger the patient. According to Bezold 20 per cent. of the subjects of labyrinthine necrosis die from consecutive brain and sinus affections.

Labyrinthine suppuration following the exanthemata, especially scarlet fever, and cases which are of a tuberculous origin are more dangerous than are those due to more ordinary causes. Where disease is localised and confined to the region of the semicircular canals the prognosis is better than where the whole contents of the labyrinth are involved. In such circumstances from 20 to 30 per cent. of the cases prove fatal.

COMPLICATIONS.

Intracranial complications are frequent. From a study of recorded statistics and from observations of my own I have arrived at the conclusion that from 40 to 50 per cent. of the cases are followed by complications, usually intracranial in nature. By far the most frequent pathway of infection is *viâ* the internal auditory meatus along the sheaths of the auditory or facial nerves and the second most frequent route is *viâ* the aqueductus vestibuli.

Suppurative pia-arachnitis is the lesion most frequently met with, usually diffuse, occasionally localised. Extradural abscesses around the sigmoid sinus or over the superior semicircular canal in the middle fossa are also encountered, as are also cerebellar abscesses, developing as a rule in that portion of the lateral lobe nearest to the original focus of infection. As a factor in the production of cerebellar abscess suppurative disease of the labyrinth is of the first importance. Phlebitis of the sinus and of the jugular vein at times owes its origin to disease in this region. Jansen has described cases of jugular phlebitis following labyrinthine suppuration, the septic process travelling along the cochlear or vestibular veins. Of the 198 cases collected by Hinsberg the cranial cavity was infected in 108. In 43 of these cases the pathway of infection was definitely traced and was as follows. In 25 cases through the internal auditory meatus; in one case through the internal auditory meatus and aqueductus; in eight cases through the aqueductus vestibuli; in one case through the aqueductus cochleæ; and in eight cases through fistulæ in the vertical canals.

The operative exposure of the cavity of the middle ear may be the cause of the extension of latent suppuration of the labyrinth to the cranial cavity. In 169 cases of radical mastoid operation performed by Brieger for prophylactic reasons there were five deaths from meningitis and in all five the meningitis was due to a concealed labyrinthine suppuration. In one of my recent cases meningitis developed after the radical operation and was due to an unrecognised and concomitant suppuration of the labyrinth which evidently became lighted up as the outcome of surgical interference. Suppuration occurring in the posterior segments of the labyrinth may set up a secondary empyema of the saccus endolymphaticus. An empyema in this situation may suddenly rupture into the meninges and produce a rapidly spreading pia-arachnitis.

TREATMENT.

In order to secure access to the external labyrinthine wall a free exposure of the middle-ear cavity must be effected. This is best secured by the performance of the typical

FIG. 4.

Temporal bone showing relation of the first whorl of the cochlea to the carotid artery and to the fenestra ovalis.

radical mastoid operation. Sufficient bone must be removed to secure a good view of the region of the oval window. Careful search should be made under good illumination for any fistulous tract leading through the bony wall or through one or other fenestra. When found the tract should be carefully enlarged by means of the bur and the path of infection followed until all granulation tissue and purulent débris have been got rid of. This may require a prolonged and deep exploration. As the fistulous tract is in the majority of cases found in the horizontal semicircular canal the operation does not present unusual difficulties. By extending the dissection along the anterior crus of the horizontal semicircular canal the vestibule may be opened, or by extraction of the stapes and enlargement of the fenestra ovalis in a downward direction the same result may be obtained.

The cochlea may be opened up by removing the pars promontoria in a direction forwards and inwards. The first whorl is in this way rendered accessible (Fig. 4). Great care must, however, be exercised when working in this region on account of the near proximity of the internal carotid artery which occasionally runs an aberrant course and projects inwards towards the tympanic cavity. Provided, however, the field of operation is kept well illuminated and dry there should be no fear of wounding the artery.

In discussing the indications for operation we are faced by the fact that clinical experience has taught that in cases running a severe and acute course resolution may take place, whereas cases which appear slight and comparatively symptomless may suddenly light up and end in acute intracranial infection. I would venture to lay down the following points as guides to operation: 1. In any case of suppurative middle-ear disease where well-marked nerve deafness upon the affected side is accompanied by frequent attacks of vertigo and sickness and by nystagmus, either constant or intermittent, a careful search should be made for the presence of any fistulous tract leading into the labyrinth. If found such tract should be opened up and explored; if not found, however, an exploratory opening through the horizontal semicircular canal or foot plate of stapes is justifiable. 2. In all cases of suspected labyrinthine disease of septic origin the vestibule should be promptly opened. 3. In cases of chronic suppurative middle-ear disease accompanied by the presence of cholesteatoma and erosion of the external labyrinthine wall free opening of the area of involvement should be effected. 4. In cases of suspected cerebellar abscess accompanied by symptoms indicative of labyrinthine involvement the operative pathway should be *via* the middle and internal ear to the posterior surface of the pars petrosa—in other words, through the median wall of the mastoid antrum. In this way the labyrinth is opened up, the anterior portion of the corresponding cerebellar lobe is exposed, and any extradural abscess lying upon the posterior surface of the pars petrosa would at the same time be located and drained.

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Manchester.

FILARIA PERSTANS AND THE SUGGESTION THAT IT BELONGS TO THE GENUS TYLENCHUS (BASTIAN).

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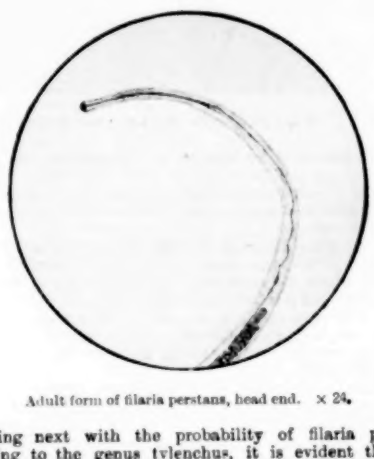
IN THE LANCET of Jan. 30th, p. 286, Dr. H. C. Bastian contributes a paper in which he states that it is probable that the nematode filaria perstans may really belong to some species of tylenchus and suggests the eating or other uses of bananas as the possible mode of infection. The idea of the banana having a relationship to this special filaria is based on a statement made by Christy that the distribution of filaria perstans in East Equatorial Africa corresponds almost exactly with the area of distribution of the banana cultivation and clothed people, and also on the fact that Bancroft has found a species of tylenchus infesting the roots of this plant in Queensland, Australia.

In a recent paper on filaria perstans[1] I pointed out that the only physical features of the land the distribution of this parasite could be found to correspond with were high temperatures and dense tropical forests, cleared zones such as the sugar cultivation areas of British Guiana or open areas such as the high grass lands of British East Africa being without it. That the banana has nothing whatever to do with the occurrence or spread of this parasite is at once evident if one considers that in the West Indian islands and other areas where bananas and plantains are extensively eaten it is not found, while, on the other hand, in the virgin forests of British Guiana, in areas where there are no bananas, it exists in 50 per cent. of the aboriginal Indians. Its abundant presence in Uganda I consider to be due, not to bananas but to the fact that there is much dense tropical forest spread all over the country and that its proper intermediate host inhabits such areas. Whenever one passes out of Uganda eastwards to Kavirondo, where the land changes and grass and bushes become the predominant feature of the landscape, there the filaria disappears.

FIG. 1.



Adult form of filaria perstans, head end. × 24.

Dealing next with the probability of filaria perstans belonging to the genus tylenchus, it is evident that the author of the paper has fallen into a misconception respecting the anatomy of the adult and embryonic forms of this filaria. A drawing of a species of tylenchus is reproduced and the statement is made that "this species has a blunt posterior extremity, such as is found in filaria perstans, but

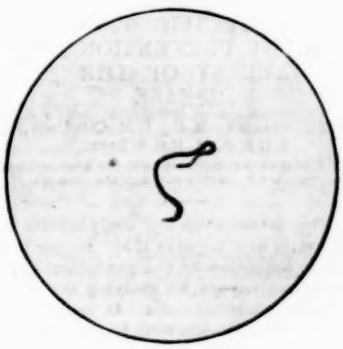
[1] Brit. Med. Jour., March 28th, 1903.

in others it is sharp and pointed, as in the closely allied filaria Demarquaii." A glance at this diagram shows a worm with a well-marked alimentary structure, a feature which is entirely absent in the embryos of filaria perstans or Demarquaii; and, further, the anatomy depicted in the

FIG. 2.

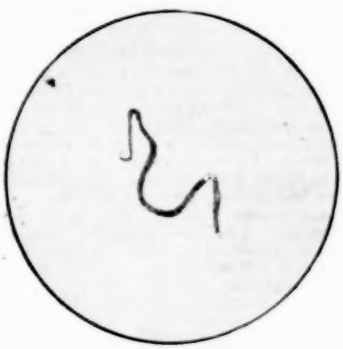
Adult form of filaria perstans, tail end. × 24.

FIG. 3.



Embryonic or larval form of filaria perstans. × 330.

FIG. 4.



Embryonic or larval form of filaria Demarquaii. × 330.

drawing in no way resembles that found in the adults of either of those two filariæ. The drawing, instead of bringing out any resemblance, shows clearly that we are dealing with two entirely different nematodes. In my paper already mentioned I have fully described and given measurements of the adult and the embryonic forms of the filaria perstans and it is needless to go into those in detail again here. It will be sufficient to state that the adults of the filaria perstans have club-shaped heads, have no spine at the cephalic end, have no pharyngeal bulb, and have the cuticle at the tip of the tail thickened to form two triangular appendages. The embryos have the little spine which Dr. Bastian mentions, have the body filled with a column of cells, but have no signs of an alimentary canal or any sexual differentiations. The following diagrams show the difference between the adult and the embryonic forms of filaria perstans and also the difference between the embryonic forms of this parasite and filaria Demarquaii.

The embryos of filaria perstans do not undergo any further change in the blood of man and the analogy of the embryonic forms of filaria nocturna and filaria immitis undergoing metamorphosis in mosquitoes shows clearly that some insect must act as an intermediate host for the further development of this parasite also. From the peculiar distribution it would seem to be some mosquito or fly inhabiting forest areas.

To conclude, then, filaria perstans has nothing to do with the genus tylenchus nor do bananas play any part in the distribution or spread of this filaria.

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IODIDE RASH IN A SYPHILITIC PATIENT RESEMBLING A VARIOLOUS ERUPTION.

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THE following case seems to be of interest from two points of view, as illustrating a difficulty in the diagnosis of small-pox and also *per se*.

On May 6th, 1903, a notification was received at the Public Health Department to the effect that an in-patient of a general hospital was suspected to be suffering from small-pox. In short, though the history negatived that diagnosis, the appearances present were such that the medical officer of health deemed it necessary as a precautionary measure to remove the patient for isolation and observation. The following history was obtained. The patient, who was an unmarried woman, aged 26 years, about two years previously was laid up for a month by an illness accompanied by a severe sore-throat and a rash. She recovered after three months' treatment. In December, 1902, some spots appeared on the calf of the right leg; these became sores and then ulcers. Similar ulcers appeared on the left leg. For several days previously to the appearance of the spots there was aching of the limbs. On May 4th, 1903, she went to the hospital as the ulcers were getting worse. She was admitted as an in-patient and fomentations were applied. On the 5th her throat became sore and she was given medicine of which she took three doses. On the 6th she woke in the morning and found herself covered with spots. On the afternoon of the same day she was removed to an isolation ward in the sanatorium.

Condition on admission.—There were three good vaccination marks, the total area being one and a half square inches. The patient was vaccinated in infancy but not since. The temperature was 100·4° F. and the pulse was 100. She did not appear to be very ill. She complained of pain in the tongue and throat and difficulty in speaking and swallowing. Her voice was reduced to a hoarse whisper. The tongue was dirty, with a deep sloughy ulcer in the mid-dorsum and fairly deep serpiginous ulcers on the edges and the tip. Similar ulcers were present on the tonsils, the roof of the mouth, and the soft palate. The mouth was too sore to permit examination of the larynx. There were several deep punched-out looking ulcers on the calf of the right leg and others over the anterior tibial region on the left leg. There was an eruption all over the body.

Character of eruption.—The eruption consisted of round pearly vesicles presenting exactly the appearance of those seen in small-pox just before the pustular stage. The vesicles were all of about equal size, the contents of many of them being blood-stained. There was a bulla about half

an inch in diameter on the left elbow, another was on the dorsum of the right hand, and there were several over the sacrum. The contents of all these were dark and blood-stained. There were no papules.

Distribution of the eruption.—The vesicles were most numerous on the face and the scalp. They were numerous on the limbs, on both flexor and extensor surfaces, more so on the forearms and legs than on the upper arms and thighs. There were a good many on the hands and feet on both palmar and dorsal surfaces. They were numerous on the back of the trunk, especially in the lumbar region and over the buttocks. There were very few on the chest and fewer on the abdomen. Unfortunately I was unable to take the photograph here reproduced (see illustration) until the third

Showing extent of eruption.

day after the appearance of the eruption, when it had lost to a considerable degree its resemblance to small pox.

Previous treatment.—On inquiry it was found that the patient had been given three doses of ten grains of iodide of potassium on the day previous to the eruption of the vesicles. She stated that she had taken no medicine before she went to the infirmary.

Course of the eruption.—On the second day the contents of many of the vesicles had become blood-stained and a considerable number of bullæ had appeared. They then gradually subsided, scabbed over, or burst and dried up. A few of them left small circular ulcers. The bulla on the dorsum of the hand and one over the sacrum grew to about two inches in diameter. Cellulitis developed in the adjacent tissues. They were incised and extensive sloughing ensued, in the case of the hand destroying the extensor tendons and necessitating the ligature of arteries on several occasions to stop hæmorrhage. When the eruption had subsided and as the syphilitic ulceration was getting worse a freely diluted mixture containing five grains of iodide of potassium with arsenic and mercury was administered three times a day. After a few doses had been taken a fresh crop of vesicles appeared and they continued to appear during the administration of the drug, which had again to be discontinued. The syphilitic ulceration grew worse, the sloughing of the tissues of the back and hand continued, the tissues round some of the small ulcers left after the subsidence of the eruption began to slough, numerous petechial cutaneous hæmorrhages occurred, and the patient gradually grew weaker. On May 19th she had a hæmorrhage from the bowel, followed by another on the next day and on the 21st she died.

Necropsy.—At the post-mortem examination sloughy ulcers were found in the larynx partially destroying both vocal cords; the ulceration extended into the trachea. The epiglottis was partially destroyed by ulceration. The heart and the lungs were normal. Old pleuritic adhesions were found on the right side. The liver was small and cirrhotic. The kidneys, bladder, and uterus and its appendages were normal; the spleen was large, soft, and congested. The intestine showed patches of congestion of the mucous membrane with here and there punctiform hæmorrhages throughout its length. The condition was most marked in the upper part of the small intestine. There was no ulceration.

Diagnosis.—The patient certainly had tertiary syphilis. The diagnosis rested between (1) syphilis with small-pox (modified by vaccination); and (2) syphilis with an iodide rash. The only points in favour of small-pox were (1) the prevalence of the disease in the town; and (2) the character and distribution of the eruption. The points by which small-pox was excluded were (1) the absence of any of the constant prodromal symptoms of small-pox; (2) the mature, vesicular nature of the eruption, though it had been present less than 24 hours (even on the palms and soles the spots were vesicular); and (3) the hæmorrhagic nature of the eruption unaccompanied by (at first) grave illness of the patient. The diagnosis of iodide rash was confirmed by the subsequent course of the eruption, by the appearance of bullæ, and by the reappearance of crops of vesicles when iodide was re-administered.

Huddersfield.

CANCER IN AUSTRALIA: A COMPARISON WITH OTHER COUNTRIES, TOGETHER WITH A SPECIFIC TREATMENT FOR THE PREVENTION AND ARREST OF THE DISEASE.

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THE following investigation and study into the cause and treatment of cancer were begun in 1893. Having in that year received special appointments as a gynæcologist exceptional opportunities were given me for studying this dread disease in the Commonwealth of Australia. In venturing therefore to introduce to the profession what I believe to be a specific treatment in the prevention and arrest of cancer I desire at the outset to state that the theory upon which this treatment is based was arrived at only after having made a very careful study into the cause and increase of the mortality from the disease throughout the Commonwealth of Australia. Having achieved a great amount of success in arresting the pathological progress and process of the disease by preventing secondary deposits and recurrence in a large number of cases treated in connexion with my own practice I have no hesitation in stating that I believe we possess in the products of the Australian indigenous foliage—the eucalypts—all the necessary therapeutic properties for preventing and arresting malignant disease. I trust therefore that I may be able in this article to supply sufficient data, crude as they may be, to merit a fair trial of the treatment suggested.

It may be explained that in Table I. the increase of population between 1788 and 1841 was due to 70,040 male and 12,210 female, or a total of 82,250, convicts being landed in Sydney. Between 1831 and 1841 it was due to State-aided immigration. In the year 1851 no less than 15,000 immigrants arrived by sea and in 1853-54-55 nearly 250,000 arrived in Victoria, which was due to the discovery of gold and the rush to that State in consequence. From 1861 to 1901 (41 years) the increase was due to the excess of births over deaths accounting for 1,910,392, and excess of immigration over emigration accounting for 780,895, or a total increase of 2,691,287. It will be noted therefore for the period between 1788 and 1851 that the large increase in population was not due to native births. It was not until 1856 that the first systematic report of deaths from cancer

was recorded, at which date it showed a death rate of 14·0 per 100,000 living. It will be noted that at this period the native born death-rate was practically *nil*, owing to the fact that very few had arrived at the time of life (nearly middle age) at which cancer principally manifests itself. Therefore, as the British born proportion of the population was at this period over 50 per cent. of the total inhabitants of the Commonwealth their death-rate would show 28·0 per 100,000 living British born. In the year 1861 the Australian born

TABLE I.—*Showing the Comparative Increase in the Death-rate from Cancer per 100,000 living among the Australian born and the British born Proportion of the Population respectively and the Increase in the Cancer Death-rate per 100,000 living of the Total Population from 1856 to 1901 (exclusive of the Aborigines).*

Year.	Total population of the Commonwealth of Australia.	Proportion of death-rates from cancer per 100,000 living.		
		Australian born.	British born.	Born of all nationalities.
1788	1,030	—	—	—
1801	6,508	—	—	—
1811	11,525	—	—	—
1821	35,610	—	—	—
1831	79,306	—	—	—
1841	206,095	—	—	—
1851	405,889	—	*28·0	14·0
1861	1,153,973	5·6	30·5	19·0
1871	1,668,377	9·7	56·7	25·0
1881	2,252,617	16·8	72·9	32·6
1891	3,183,237	19·8	119·8	45·9
1901	3,771,715	22·6	203·1	57·3

* Calculated for the year 1856.

proportion of the population was about 45 per cent. and the British born 46 per cent. of the total inhabitants of the Commonwealth. The Australian born death-rate at this period appears to be 5·6 per 100,000 living Australian born, while the British born was 30·5 per 100,000 living British born. In 1901 the Australian born proportion of the population had increased to 77 per cent. of the total inhabitants of the Commonwealth and the British born had diminished to 16 per cent., but it is interesting to note the fact that during this period of 40 years, while the Australian born proportion of the population had increased by about 3,000,000, their cancer death-rate had only increased to 22·6 per 100,000 living Australian born, whereas the British born proportion of the total inhabitants had only increased by about 354,000, yet their cancer death-rate had increased to 203·1 per 100,000 living British born. In other words, between the years 1861 and 1901 the Australian born death-rate had increased by only 17 per 100,000 living Australian born as against 172 per 100,000 living British born. As Table I. shows only the crude cancer death-rate it is necessary therefore before coming to any definite conclusions to study the corrected cancer death-rates for the age period 35 years and upwards of the Australian, British, and foreign born inhabitants of the Commonwealth respectively, not only in respect of the total population but also as they affect proportionately the individual nationalities themselves. These calculations I have carefully made and they are shown in the accompanying table (Table II.).

The death-rates are calculated for the year 1900. It will be observed that the crude cancer death-rate for the whole of the Commonwealth was 57·3 per 100,000 living, of which the Australian born cancer death-rates accounted for 17·1 and the British and foreign born 40·2, but when these death-rates were corrected for the age period 35 years and upwards the total Commonwealth death-rate was 195·3 per 100,000 living, of which the Australian born proportion was 58·2 and the British and foreign born 137·1. The relative difference between the Australian, British, and foreign born death-rates appears all the more striking when we compare them in respect to each of their proportions of living population. This I have also carefully calculated for each State separately, corrected for age period and averaged these results. Thus it will be seen that the crude cancer death-rate of the Australian born was 22·8 per 100,000 living of their population, whilst the British born is 202·1 per

TABLE II.—*Showing the Crude and Corrected Death-rates from Cancer per 100,000 living, also the Proportion of Deaths from Cancer to 100 Deaths from all Causes for the Commonwealth, its Metropolitan and Country Districts: and the Comparative Death-rates among the Australian, British, and Foreign born Proportion of Inhabitants respectively for the Year 1900 (exclusive of the Aborigines).*

The Commonwealth of Australia.	Crude cancer death-rate.		Corrected cancer death-rate for ages 35 years and upwards.	
	Death-rate from cancer per 100,000 living at all ages and of all nationalities.	Proportion of deaths from cancer to 100 deaths from all causes at all ages and of all nationalities.	Death-rate from cancer per 100,000 living of persons whose ages are 35 years and upwards of all nationalities.	Proportion of deaths from cancer to 100 deaths from all causes of persons whose ages are 35 years and upwards of all nationalities.
Commonwealth ...	57·3	5·0	195·3	10·0
,, metropolitan districts	81·3	6·4	326·0	12·8
,, country districts	44·7	3·9	134·0	8·4
,, The native born proportion of population	17·1	1·5	58·2	3·0
,, The British and foreign born proportion of population	40·2	3·5	137·1	7·1
,, The native born proportion of population	22·8 (to 100,000 living native born).	2·3 (to 100 deaths native born).	81·3 (to 100,000 living native born).	6·9 (to 100 deaths native born).
,, The British born proportion of population	202·1 (to 100,000 living British born).	8·8 (to 100 deaths British born).	490·0 (to 100,000 living British born).	12·5 (to 100 deaths British born).
,, The foreign born proportion of population	208·3 (to 100,000 living foreign born).	8·5 (to 100 deaths foreign born).	351·6 (to 100,000 living foreign born).	11·8 (to 100 deaths foreign born).

100,000 living of their proportion of the population, and when these figures are corrected for ages of 35 years and upwards the difference between the two death-rates is most amazing, the Australian born being only 81·3 per 100,000 living native born, whilst the British born is 490 0 per 100 000 British born. It will also be observed that for the whole Commonwealth cancer claims one death out of every 20 deaths from all causes. The Australian born proportion is one death from cancer for every 66 deaths from all causes, whereas the British born proportion is one death from cancer for every 28 deaths from all causes. When these figures are corrected for the age period of 35 years and upwards the death-rate from cancer for the whole Commonwealth is found to be one death in every ten, the Australian born one death in every 33, and the British born one death in every 14. The Australian born proportion of deaths from cancer to 100 deaths of the native born inhabitants from all causes and at all ages was 2·3, or one death in every 43, whereas the British born proportion of cancer deaths to 100 deaths of the British born inhabitants from all causes and at all ages was 8·8, or 1 in 11. When these death-rates are corrected for the age period of 35 years and upwards it is found that the Australian born proportion is 6·9, or about one death in every 15, whereas the British born proportion is 12·5, or one death in every eight. The cancer death-rate of the foreign born inhabitants of the Commonwealth of Australia is also very high when compared to that of the native born. The figures in Table II. show the foreign born death-rate from cancer per 100,000 living foreign born to be 208·3, and corrected for the age period 35 years and upwards the death-rate is 351·6.

The foreign born proportion of deaths from cancer to 100

deaths from all causes and at all ages of the foreign born inhabitants is 8·5, or about one death in 11, and these figures corrected for the age period of 35 years and upwards show 11·8, or about one death in every eight deaths from all causes. The death-rate from cancer of the foreign born inhabitants varied considerably according to their nationality, as the following list will show (Table III.). It

TABLE III.—*Showing the Death-rate from Cancer of the Foreign Born Inhabitants.*

Country.	Death-rate from cancer per 100,000 living.	Proportion of cancer deaths to 100 deaths from all causes, 35 years and upwards, of each nationality.
Germany	252	11·0
France	375	16·6
Austria	330	16·0
Russia	80	5·4
Sweden and Norway... ...	289	15·6
Chinese Empire...	72	5·0
Italy	65	5·0
United States of America	61	2·0

is calculated for the year 1900. It will be noted that Italy and the United States of America show a comparatively low death-rate when compared with the other foreign countries; on the other hand, Germany, France, Austria, Norway, and Sweden show even a much higher death-rate than the British born inhabitants of the Commonwealth. The Chinese, who form the largest proportion of the foreign born inhabitants of the Commonwealth, also show a low death-rate when compared with the other foreign countries. From 1316 deaths of Chinese registered in Victoria between the years 1894 and 1900 from all causes 49 were recorded as having died from cancer. For the same period in Victoria it is interesting to learn that of 70 cases of deaths registered as having occurred amongst the aboriginals of the State only one case of cancer was recorded.

TABLE IV.—*Showing the Death-rate from Cancer per 100,000 living for each State of the Australian, British, and Foreign born Inhabitants respectively, according to their Percentage of the Total Population, for the Year 1900 (exclusive of the Aborigines).*

State.	Australian born.		Natives of the United Kingdom and other portions of the British Empire.		Foreign born.	
	Percentage to the total population.	Cancer death-rate per 100,000 living. Australian born.	Percentage to the total population.	Cancer death-rate per 100,000 living.	Percentage to the total population.	Cancer death-rate per 100,000 living.
New South Wales	80·52	21·0	16·28	201·1	2·61	207·2
Victoria	79·42	28·6	17·92	283·0	2·15	245·3
Queensland	65·20	23·4	25·42	107·8	8·71	196·6
South Australia ...	80·06	22·7	15·69	192·2	3·73	202·4
Western Australia	70·51	15·4	22·60	81·5	5·65	120·0
Tasmania	86·82	20·0	11·54	223·0	1·29	230·0
Commonwealth of Australia ...	77·02	22·8	19·50	202·1	3·28	208·3

From Table IV. it appears that Victoria shows a higher death-rate from cancer than any of the other States, Western Australia showing the lowest. The State of Tasmania, it will be observed, shows a high death-rate from cancer among the British born inhabitants.

A study of Table V. tells its own grim tale of the steady increase in the number of deaths and the death-rates from cancer in each State from 1870 to 1900.

TABLE V.—*Showing the Number of Deaths and the Death-rates from Cancer in each State since 1870 (exclusive of the Aborigines).*

Number of Deaths.

State.	1871-1875.	1876-1880.	1881-1885.	1886-1890.	1891-1895.	1896-1900.
New South Wales	772	934	1,146	1,876	2,587	3,548
Victoria	1,245	1,712	2,065	2,799	3,621	4,066
Queensland	125	225	336	508	731	1,071
South Australia ...	199	352	475	592	803	968
Western Australia	16	23	52	85	102	248
Tasmania	249	255	308	341	371	459
Australian Commonwealth ...	2,606	3,501	4,382	6,201	8,215	10,380

Death-rate per 100,000 Living.

New South Wales	28·3	28·2	27·2	36·2	43·1	54·1
Victoria	32·6	41·6	45·3	53·2	61·9	68·9
Queensland	17·4	22·0	24·9	28·1	35·3	45·9
South Australia ...	20·4	29·1	32·3	38·4	47·7	54·5
Western Australia	15·4	16·4	33·0	40·7	30·6	31·8
Tasmania	48·3	46·9	50·4	49·8	49·1	55·5
Commonwealth of Australia	27·6	32·3	34·6	42·2	49·7	57·3

TABLE VI.*—*Showing Death-rates from Cancer in various Countries for the Purpose of Comparison with the Death-rates from Cancer in Australia shown in Previous Tables (mostly for the Year 1900).*

Country.	Death-rate from cancer per 100,000 living.	Proportion of deaths from cancer to 100 deaths from all causes at all ages.	Proportion of deaths from cancer to 100 deaths from all causes of persons 40 years of age and upwards.
England and Wales...	82·8	4·5	8·5 (35 years and upwards).
Scotland	81·0	—	—
Ireland	61·0	—	—
France (towns only, cancer and tumour) ...	104·0	4·3	7·6
German Empire	72·7	3·3	6·6 (15 years and upwards).
Austria...	70·4	2·7	7·5
Italy	52·1	—	—
Switzerland ...	132·0	—	—
Holland	91·3	—	—
Norway	84·5	—	—
United States of America (registration area) ...	60·0	—	—

* This table was compiled from Mr. Alfred Wolff's figures in an article on "Increase of Cancer" (*The Nineteenth Century and After*, June, 1903).

Death-rate from cancer in respect to distribution of sex — For a number of years deaths from cancer in every State of the Commonwealth have been more numerous among males than among females. Thus, in the State of Victoria for 11 years (from 1890 to 1900) there were 8523 deaths from cancer, of which 4445 were males and 4088 were females; and in the State of New South Wales for seven years (from 1894 to 1900) of a total of 4619 deaths from cancer 2528 were males and 2091 were females. From a calculation I made of the crude cancer death-rate for the whole of the Commonwealth there was very little difference between the death-rates of males and females, but having carefully corrected the cancer death-rates for the age term of 35 years and upwards I found the average death-rates for the whole of the States to be in the proportion of six males to seven females. From Tables I., II., IV., and V. it is evident (1) that the death-rate from cancer of the British and foreign proportion of

the population is abnormally high when compared with that of the Australian born proportion and also when compared with Table VI., showing the death-rate from cancer in their individual countries; and (2) that the death-rate of the Australian born is exceptionally low, so much so that it would appear that they are almost immune from the disease when compared with the death-rates of the British and foreign inhabitants and after allowing for any inherited tendency. I might here mention that Mr. T. A. Coghlan, the chief statistician of the Government of New South Wales, has made an estimate of the children of parents dying from cancer and from the experience of seven years (from 1893 to 1899) he found that the average families of married males who died from cancer was 6·11 and of females 5·99. Of 761 persons dying from cancer in the State of New South Wales in the year 1899, of whom 281 were born in Australia, 599 (285 males and 314 females) were married and of these 523 left families.[1]

The question may now be asked, What, then, is the cause of this high death-rate which has abnormally increased among the British and foreign inhabitants of the Commonwealth of Australia? A brief study of the early history of the country from 1788 to 1856 in respect to the moral and social conditions of the inhabitants, will, I venture to state, throw a great light on this question. It is a well-known fact that Australia was the dumping ground for convicts for the first 50 years, over 82,000 having been landed between 1788 and 1841. The first population began on Jan. 26th, 1788, when Captain Phillip arrived in Sydney Harbour with the "first fleet," bringing with him an establishment of about 1030 people. It may be as well to note the composition of those despatched from England in the six transports which made up the above establishment. They had on board 564 male and 192 female convicts; 178 marines, officers and men; five medical men; a few mechanics; 40 women, wives of the marines; and 13 children. Several shiploads followed in the same year, and in consequence of overcrowding and insanitary conditions on the voyage, it was discovered that out of a total of 1700 who had been placed on board in England, 200 died on the voyage; while hundreds of others were in an enfeebled or dying condition when they reached Port Jackson. In 1803 settlement extended from New South Wales to Tasmania and later to the other States. From 1800 to 1806, during Governor King's period of office, serious trouble arose from the fact that officers sent out in charge of convicts began trafficking in the rum trade and actually imported large quantities which they retailed at large profits; some of them even set up stills on their own account in defiance of Government orders. This condition of affairs continued until the Imperial authorities appointed Governor Bligh to succeed Governor King, believing that he would correct the abuses which his predecessor seemed powerless to suppress, particularly in regard to the rum trafficking. Governor Bligh on arrival issued a stringent proclamation forbidding the bartering in spirits in exchange for other commodities, but without success, as the illicit trade went on throughout his term of office. It was not until he was succeeded by Governor Macquarie that this illicit traffic in spirits was rigidly suppressed and the normal and industrial condition of the colony was improved upon.

From the above it is evident that *alcoholism* has played a great part as a factor in the causation of disease, from the very foundation of the country. Between the years 1851 and 1861 the large increase in the population was due to the gold discoveries, and the class of individuals who arrived in Australia in consequence of these discoveries and the condition of affairs existing at this period are best told in the words of Mr. Coghlan:[2] "All classes and all distinctions were levelled, the thirst for gold seizing upon the entire community. The shops were empty, the streets deserted, the doors of the counting-houses barred, the plough left resting in the furrow, sheep and cattle wandered unattended, while the Port of Melbourne was filled with unmanned vessels, dropping to pieces for lack of attention and repair. ..... Brisk business was done by saloon proprietors and the shanty and dancing-hall keepers, who became veritable 'first robbers' of fortunate diggers. The public service was, however, reduced to abject inefficiency; the police decamped like their superiors in search of fortune and even domestic servants, male and female, joined in the general stampede. The Governor was reduced to a condition of absolute powerlessness and ruled in Melbourne with hardly any to obey his behests—like a monarch without a realm. Society was, in truth, utterly disorganised, and it was not long before the position became even more embarrassing. The news reached China, America, Europe, besides neighbouring colonies and at the port of debarkation up sprang 'Canvas Town,' formed by the myriad tents of new arrivals. From South Australia and Van Diemen's Land, without reckoning the other colonies, something like 11,000 people poured into Melbourne, bound for the fields, in the latter half of the year 1851. ..... The arrivals from Europe in the early days included not only what has been described by an Australian writer as the 'brain and brawn' of the whole world, but many that could have been easily spared—viz., fugitives from justice, adventurers from California and the South Pacific, escaped convicts and disguised bushrangers, sharpers, and professional gamblers from every city on the 'Continent' or in the 'States,' and hordes of Asiatics from Canton and the Straits Settlements, there being not less than 25,000 Chinese whom the gold fever allured to the various fields. Week after week and month after month, vessels sailed into Hobson's Bay, landing passengers and discharging cargoes in the most primitive fashion, for their crews deserted as soon as the ships dropped anchor or came to their moorings. The nobly born and the gently nurtured, professional men and navvies, artisans, farm labourers, deserting soldiers and runaway sailors, 'forty niners' from the fields of California, political refugees from France and Germany and Russia—representatives, in short, of every civilised, and almost every uncivilised, people beneath the sun—poured in never-ending stream into Port Phillip, *en route* for the gold fields. Upwards of 15,000 immigrants arrived by sea during the latter half of 1851, 94,000 during the year following, and in 1853-4-5 nearly a quarter of a million."

To complete the above real and graphic statement of the condition of affairs existing at this period it is only necessary for me to add, what Mr. Coghlan may have for special reasons purposely omitted—viz., that syphilis (as well as alcoholism) was most prevalent at this period of the history of the country. This dread disease in the Commonwealth of Australia has gone on its way unchecked, unnotified, and, in the majority of cases, untreated for the necessary length of time to prevent the horrible ravages of this disease in later life favouring the development of malignant disease. In support of this statement I may say that since 1893 from among notes on 55 cases (all females) of cancer occurring in connexion with my own practice in Melbourne I find of this number 32, or about 60 per cent., had a syphilitic history, of which 11 cases, or 20 per cent., had inherited the disease and 21 cases, or 38 per cent., had acquired it from ten to 30 years previously and in nearly every instance a history of having undergone little or no treatment was elicited. It may be worthy to note the region attacked by the disease in connexion with these cases. The whole of the 11 cases with a history of inherited syphilis developed cancer of the breast and of the 21 cases that had acquired it 17 developed cancer of the uterus and only four developed cancer of the breast. Another interesting fact was in respect to the ages of these cases. The 11 cases with the inherited history were all under 40 years of age and varied from 28 to 39, whereas the ages of those with the acquired history were (with the exception of one whose age was 36 years) all over 50 years, the ages varying from 53 to 72 years. Of the remaining 23 cases 17 developed cancer of the breast and six cancer of the uterus, also 12, or 21 per cent., had a history of alcoholism, eight, or 14 per cent., rheumatism, and three, or 5 per cent., a family history of phthisis.

With regard to the history of heredity among these cases it may be interesting to note that of the 32 cases suffering with a syphilitic history only seven, or about 12 per cent., gave a history of cancer having occurred in their families—one father and six mothers; whereas in the remaining 23 cases 12, or about 21 per cent., gave a history of cancer having existed in their families—two fathers, six mothers, two sisters, and two brothers. The birthplaces of these 55 cases were as follows: Australia 6, England 23, Ireland 12, Scotland 9, Germany 3, and France 2. It will be noted therefore that only 10 per cent were Australian born, that 80 per cent. were born in the United Kingdom, and that about 10 per cent. were foreign born. The diagnosis in all the cases under review was confirmed by microscopical examinations. As space will not permit in this article, and

[1] Vide p. xlii., Report on the Vital Statistics of New South Wales, 1899.

[2] Coghlan: The Wealth and Progress of New South Wales, 1900-01.

as full notes on all these cases will be published at a future date, I will confine myself to the following notes on one case only which may be well worth recording, as it bears particular relation to syphilis as a factor in the cause of cancer.

A woman, aged 33 years, with her husband, was a passenger on board a steamer on which I was travelling in 1893. On the second morning after our departure the husband asked me if I would see his wife in consultation with the surgeon of the steamer who feared she was suffering from cancer of the mouth. I consented and on examination found that she was suffering from what appeared to be a syphilitic gumma of the palate, having a perforation about one-third of an inch in diameter and a thick nasal discharge. A subsequent interview with the husband left no doubt as to the specific nature of the disease. He informed me that nine years previously he had contracted syphilis and that about three months afterwards his wife was operated upon by a specialist who curetted the womb and treated her for an ulceration of the cervix, which no doubt fixed the time of the primary chancre. His wife never received any treatment beyond this and showed no further symptoms until she complained about two weeks before sailing of having a relaxed throat and a thick post-nasal discharge. Large doses of iodide of potassium were administered and the perforation had practically closed by the time we had arrived at our destination and her general condition was much improved. I continued treatment for about six months when they went to Africa. Three years later the wife consulted me for metrorrhagia. She informed me that her husband had died three months previously in Africa from cancer of the tongue and that two months before his death she had given birth to what her medical attendant described as a hydatid mole. Subsequent examination gave every evidence of this and after curetting a microscopical examination of the scrapings revealed the fact that she was suffering from deciduoma malignum or chorion epithelioma.

The chief points to be noted in this case are: (1) that both had acquired syphilis prior to developing malignant disease; (2) that the husband at the time the wife became pregnant was evidently suffering from cancer of the tongue; (3) that the molar pregnancy was either due to the syphilitic condition of both parents or to the malignant condition of the father; and (4) that this malignant tumour of pregnancy was apparently of fœtal origin. As recent research into the cause of chorion epithelioma favours that of fœtal origin, the above case may throw some light on this vexed question.

My investigations as to the prevalence of cancer among the aborigines of Australia elicited the fact that they are practically immune from the disease. Very little statistical evidence could be obtained of cases of cancer having occurred among the aborigines, although a great number had lived to the age period at which cancer chiefly manifests itself and its death rate is at its highest. On the other hand, they were particularly susceptible to bronchial and phthisical conditions, the majority dying from these causes. What, then, is the cause of this apparent immunity among the aborigines and the low death-rate from cancer among the majority of the Australian born white population? I am of opinion that the indigenous foliage—the eucalypts—exerts a great influence in this direction. The sanitary effects of this vegetation against malaria (a rare disease in Australia) are well known, as it appears to have a beneficial effect on the atmosphere in the region of its growth. The eucalyptus trees, unlike any other forest trees, have a great capacity for absorbing moisture from the soil and any stagnant water at their roots and they possess the power of giving off fresh from their leaves the water thus absorbed. The powerful disinfecting action of the volatile oils emanating from their leaves and other parts is mainly due to the fact that they change the oxygen of the atmosphere into ozone and peroxide of hydrogen. The foliage dropped on the ground does not decompose like that of most forest trees but purifies any germ-infected matter in pools of stagnant water on the ground. The indigenous soil of Australia which grows the food for the cattle possesses sanitary properties which may have an indirect action on the health of the same. Although I have made investigations and examined many indigenous animals such as the opossum and kangaroo for malignant growths, I have never been able to obtain any evidence of cancerous disease among them; whether living on the gum leaves is the cause of this immunity would be interesting to know. I am inclined to believe such to be the case. On the other hand, malignant growths are prevalent among the cattle but not nearly so prevalent as among the cattle of other countries, as statistical evidence proves.

Mr. Wolff's investigations into the cause of the increase of cancer in various countries appear to prove conclusively that regions of high cancer mortality are also for the most part regions of woods and forests. He states: "The facts on this point were everywhere so striking that they seem to establish beyond question that a focus of cancer infection is to be found in regions abounding in woods and water." Lloyd Jones, writing in 1899 on the different conditions in Cambridge under which cancer was observed, says: "Proximity to trees, especially large ones, is connected in some way with the prevalence of cancer. The part of the town which is most free from cancer is singularly devoid of trees and vegetation, while the disease is very prevalent in well-wooded parts of the town and among houses hemmed in by trees." Other observers have noted similar facts. Therefore, should Mr. Wolff's conclusions be correct they only add additional weight to my theory that the Australian eucalypts and their soil possess some specific action in preventing malignant disease among the aborigines and the majority of the white Australian born proportion of the population of the Commonwealth. It is interesting to note that those countries, such as Italy, the United States, Portugal, and Algeria, which have transplanted or possess the eucalyptus foliage, show a low death-rate from cancer. India, which possesses the cajuput tree—belonging to the same natural order as the eucalypts and producing a volatile oil having medicinal properties somewhat similar—also shows a low death-rate from cancer among the native born population. In fact, the native born population of all countries possessing trees and foliage belonging to the same natural order (myrtaceæ) as the eucalypts or their allied species (lauraceæ) appear to have a great immunity from cancer, the sanitary properties of the various species no doubt exerting an influence in this direction. Compare this with that of the wooded forest regions referred to by Mr. Wolff, the dropping foliage of which decomposes, becomes germ-infested, influences the stagnation of the water, and renders the soil insanitary, thereby becoming a great factor in the cause of the high death-rate from cancer in these regions.

Another important fact which appears to support this view and at the same time throws much light on the cause of cancer is that the native population of countries possessing this foliage, although subject to all varieties of neoplasm, very rarely have malignant new growths. Scirrhus of the breast and rodent epithelioma of the face are instances in point, the scarcity of the former being no doubt due to the fact that the corset, which to my mind is the principal exciting factor in the cause of cancer of the breast, is an unknown quantity, and of the latter probably being due to the fact that the pigmented skin of the native is better protected from irritation by the rays of the sun. My investigations have proved that most cases of cancer occurring among the native populations where the various sanitary foliage referred to is indigenous to the country, such as Australia, India, Batavia, Singapore, Ceylon, China (Formosa), Japan, Zanzibar, Penang, Bencoolen, Amboyna, and other places, are undoubtedly due to some prolonged local irritation acting on a debilitated constitution. Take India for instance, kangri cancer is very prevalent among the kangri wearers, due to the constant irritation of the kangri on the skin of the abdomen; Dr. W. J. Elmslie, Dr. J. N. Mitra, and Dr. Neve have conclusively proved this to be the case. Dr. Neve has quoted over 400 cases and has shown that the disease is no doubt an epithelial cancer, accompanied by glandular infection, ending in death unless cured by operative means. Then, again, it has been clearly pointed out by many observers that epithelioma of the penis is very prevalent among that portion of the native population—the Hindoos—who have long foreskins and do not circumcise. On the other hand, it is almost absent among the Mussulman portion of the population who are all circumcised. The Jews for the same reason appear almost immune from this form of the disease, while on the other hand phimosis appears to be a great factor in the causation of cancer of the penis in most European countries.

Cancer of the lip appears to be very rare among natives of India, owing no doubt to the absence of smoking the short clay pipe; whilst, again, cancer of the mouth is very common, which is no doubt due to the constant habit of chewing irritating substances such as tobacco, betel leaf, &c. Now when we consider these facts and also the amount of malignant

disease in European countries due to similar causes—such as the prolonged irritation of the pipe on the lip, phimosis on the penis, soot on chimney-sweeps' skin, chewing tobacco on the mouth, corset on the breast, stiff collars and shirt on the skin, and constant use of pessaries on the uterine organs—I venture to say that there is sufficient evidence to warrant one in believing that next to hereditary causes prolonged local irritation is the principal exciting factor in the cause of malignant disease. But from the number of individuals who live up to, and long past, the cancer age, and who are subject to prolonged local irritation on all their tissues from more or less all of the above causes and who never develop malignant disease, it would appear that some other factor is wanting in addition to prolonged local irritation. I venture to state that I have found no evidence in my investigations to warrant me in believing that this factor will be found in the laboratory by those searchers after the bacterial and parasitic cause, but I have found ample evidence in favour of my theory that this factor is to be looked for by the chemist in the form of a chemical constituent in the blood, occurring chiefly in the debilitated constitutions of those arriving at the cancer age, due to such neglected and untreated diseases as syphilis, alcoholism, obesity, rheumatism, gout, tubercle, &c. There is every evidence also to believe that sugar and alcohol play a great part among the exciting causes inasmuch as they enter very largely into the manufacture of beer, sweet wines, and spirits. This fact probably accounts to a large extent for the great contrast in the death-rate from cancer in Australia between the metropolitan and country districts as seen in Table II., the larger amount of beer which is consumed in the metropolitan districts favouring a higher death-rate than in the country districts where less beer is consumed. The same reason may partly account for the very high death-rate among the British and foreign born proportion of the Commonwealth, compared with the Australian born, as the former consume considerably more beer than the latter, who drink more wines and spirits. This fact was particularly striking in France where, according to Mr. Wolff, the contrast was very marked between the departments of high cancer mortality, in all of which beer is very largely drunk, and the departments in the centre and the south, where the death-rate from cancer among the wine-drinking population was persistently low, his conclusion being "that the consumption of beer has a distinct influence on the development of cancer."

Hereditary causes.—My investigations lead me to believe that the hereditary causes of malignant disease may be subdivided into two groups—viz., "inherited" and "congenital," the former being those that in the strict sense are inherited as the result of direct action of the malignant virus upon the sperm cells and germ cells prior to, or at the time of, impregnation, either parent at the time suffering with a malignant diathesis, such cases no doubt being those which develop late in life, the pathological development being accelerated by some one or other of the exciting or irritating causes. Numerous cases are on record of members of the same family having developed malignant disease. I might here mention that in one of my cases—that of a woman who developed cancer of the uterus at 60 years of age—there was a history of two brothers having previously died from cancer; in one instance the disease attacked the tongue and throat and in the other case the stomach was the seat of the disease. The latter or congenital group are those that are acquired by the fœtus during its intra-uterine life, in which case the medium of infection would be the placental circulation; this group of cases develop either in utero or in early life. As instancing this class of case there was reported in the State of New South Wales in the year 1898 one death from cancer, the patient being two years of age. In 1899 there were deaths registered of two children aged two months, and of three aged three years, and there were altogether six deaths of children under five years of age. The fact that the whole of these cases were certified to by qualified and experienced medical practitioners proves beyond doubt that they were congenital, unless grave errors of diagnosis were made by the medical practitioners concerned. Many such other cases are on record.

Is malignant disease infectious or contagious?—The fact that numerous observers in many countries have of late years collected a large amount of evidence showing its frequent occurrence in certain streets and houses which latter have been termed "cancer houses," also the numerous instances which have been recorded of the disease having been transmitted from husband to wife and *vice versâ*, and to different individuals who have been drinking from the same vessel or have smoked the same pipe which had been constantly used previously by one suffering from cancer, leave very little doubt that some forms of malignant disease are contagious. I have no hesitation in my own mind in stating that the majority of the infectious or contagious types of cancer will be found on careful investigation to be a form of malignant syphilis.

The theory that I venture to advance as the result of this investigation and upon which the following specific treatment was based is briefly as follows. That the origin of cancer (carcinoma and sarcoma) is not due to a bacterial, parasitic, or local cause, but is to be looked for in the blood in the form of an unknown chemical constituent (which, for the purpose of description, I will call "malignic acid"), capable of gradually becoming virulent under certain bad climatic, hygienic, dietetic, and social conditions of life, chiefly manifesting itself at its greatest virulence after 40 years of age, the degree of virulence and the age at which it may manifest itself being entirely dependent upon the age and constitutional condition of parents at the time the "malignic acid" diathesis is transmitted and according to the mode of living, environment, and exposure to the exciting causes after birth. This "malignic acid" when excited into virulence in its passage through the blood stream may attack any soft or bony tissue in any part of the body the physiological resistance of which has been weakened by one or other of the exciting causes. It matters not whether this tissue be epithelial or connective, a matrix of detached embryonic inclusions; existing benign tumours derived from a congenital, inherited, or post-natal origin; syphilitic, scrofulous, tuberculous, or lupoid lesions; ulcerations and lacerations of the cervix uteri; inflammatory deposits, old scars, burns, wounds, or skin lesions excited by soot or paraffin; eczema, ichthyosis, or any other irritating cause. This "malignic acid" possesses the power by a process of chemical reaction of transforming any of the aforesaid weakened tissue into malignant tissue, having particular effect upon debilitated epithelial and connective tissue which has been subjected to prolonged local irritation, attacking and infecting its intracellular matrix and cells. At the same time, it sets free the latter to group together in nests or to migrate through the blood and lymph channels either to escape as excretory products or to become deposited on other distant debilitated parts of the body. I am of opinion that the various so called intracellular and cellular inclusions which have been isolated and so fully described by Plimmer, Schueller, von Leyden, and others to be parasites and by Nosske and Greenhough as secretion deposits are nothing more or less than the transformed remains or deposits (which also for the purpose of description I will term "malignates") of the parent intracellular matrix, some of which has been included in the cells during the process of chemical reaction.

The many varieties of malignant growths and lesions, cellular and otherwise, which already have been determined by pathologists, favour, I venture to say, the above theory. Malignant lesion or growth, it is now well known, does not depend upon the amount of cellular elements found therein, as this to a great extent depends upon the structure of the tissue involved. The numerous cases of malignant disease which the microscope has failed to determine prior to operation or ante mortem and which have subsequently been confirmed as such after removal or post-mortem examination all favour the "blood-origin theory." The severe constitutional symptoms in the form of emaciation and cachexia, frequently accompanying malignant disease, and which are out of all proportion to the severity of the local or primary lesion, also support this view.

The following case which came under my notice in 1893 clearly demonstrated to me that any successful treatment for the arrest of cancer should not depend alone upon attacking or removing the accessible primary lesion. I had occasion to perform a post-mortem examination for a coroner's inquest upon an old man, 72 years of age, who had committed suicide by cutting his throat and hacking the same in a most deliberate manner, and although the cause of death from suicide and hæmorrhage was apparent, the law demanded a complete necropsy. Upon performing this the real motive for the poor old man's suicide was made evident. Masses of cancer nodules were found to be studded over the liver, the kidneys, under the pleura, the pericardium, and the endocardium, and although I made a careful search both

externally and internally for some primary lesion of considerable size to account for such extension I could not discover one.

In the report in THE LANCET[2] of a meeting of the Pathological Section of the Royal Academy of Medicine in Ireland Dr. J. T. Wigham showed a cancer of the breast and various internal organs secondarily affected, with sections. The cancer was of the scirrhus type, the interest of the case lying in the route by which the disease is said to have spread to the internal organs. Cancer nodules could be discovered in the liver and under the pleura, the pericardium, and the endocardium, and the sections showed the growth pushing through the heart fibres between the last two. Similar growths were also found in both ovaries and along the course of the Fallopian tubes. Many other similar cases have been recorded. From the above facts it is plainly evident that treatment of a so-called accessible primary lesion (which oftentimes may be only a secondary growth) *alone* after the malignant virus has become active is tantamount to treating a syphilitic chancre, gouty, rheumatic, or tuberculous deposit locally, while permitting the secondary lesions to form. I hold, therefore, that as the origin of cancer is in the blood numbers of so-called primary lesions or growths may manifest themselves simultaneously in different parts of the body, which may be internal or external, inaccessible or accessible. That from the moment the malignant virus becomes active, proliferation and degeneration of the tissue and cells in the region attacked commence, and secondary infection and deposits occur. That the only method of arresting these pathological conditions is to charge the blood with some antidote to the malignant virus which it contains capable of rendering both the virus and the infected migrating cells in the blood and lymph channels inert, at the same time removing or attacking directly the primary lesions when accessible at the earliest possible moment.

(To be continued.)

AN UNUSUAL CASE OF CEREBRAL ABSCESS; BILATERAL TEMPORO-SPHENOIDAL ABSCESS; OPERATIONS; RECOVERY.

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SUCCESSFUL operations upon abscess in the temporo-sphenoidal lobes of the cerebrum secondary to disease in the temporal bone are now comparatively frequent, so that isolated cases are rarely published. Many cases also are known in which operations have been performed upon two or more abscesses on the same side of the cerebrum, but after a careful search no record has been found of a case in which the temporal lobes on both sides have been destroyed by abscess secondary to ear disease. Such a condition must necessarily be very rare and recovery after operation, if not unique, is sufficiently remarkable to justify publication.

On May 9th, 1901, I was asked by Dr. C. Oldfield of Leeds to see a young woman, aged 20 years, who was then comatose and had a purulent discharge from both ears. The history, as supplied by her friends and the medical attendant, was that she had suffered from an intermittent discharge from both ears for six years but was otherwise very healthy. About the middle of March she had had severe pain in the left ear which lasted a few days, and subsequently, although not feeling very ill, she had not been able to resume her usual work. For three weeks there had been constipation and almost constant headache on the left side and during the same period she frequently complained of dizziness. Three days before I saw her she complained of diplopia but no distinct strabismus could be detected. For two days periods of mental dulness had been noticed and there had been marked drowsiness, gradually passing into complete unconsciousness on the last day. Vomiting had only occurred twice, once seven days and once two days before coming under my care, each time after food. No paralysis of any of the limbs had been noticed before May 9th and no pain, swelling, or tenderness over the mastoid region. The temperature had been normal or slightly subnormal.

The patient was removed to the General Infirmary for operation. On admission she was found to be profoundly unconscious and could not be roused. The limbs were motionless but there were some rigidity of the right arm and occasional involuntary contractions of the pectoral muscles on the same side. The knee-jerks were present and brisk. Both eyes deviated outwards, the right deviating more than the left. The pupils were equal and reacted slightly to light. They were for the most part very small but at fairly regular intervals of from 20 to 30 seconds they suddenly dilated almost to the fullest extent possible. Synchronous with this the breathing for four or five respirations was deeper and there were slight movements of the arms and legs; the breathing then suddenly became feeble and the pupils contracted at once. There were no gradual rise and fall in the amplitude of the respirations, as in the usual form of Cheyne-Stokes breathing. The respiration-rate was from 18 to 22 per minute, the pulse was 56 and somewhat irregular, and the temperature was 98·2° F. The outer margins of the optic discs were blurred, the inner margins being distinct. Examination of the ears revealed pus in both auditory canals. On the right side there was a perforation in the membrana tympani involving the lower third; on the left a polypus filled up a perforation in the anterior half of the drum. Within an hour of her admission she was anæsthetised and the left mastoid region having been exposed by the usual curved incision the outer surface of bone was removed and the antrum and mastoid cells were found to be full of pus, caseating material, and granulation tissue. The usual radical mastoid operation was performed, all diseased bone being removed. In the performance of this the dura mater over the tegmen antri was exposed but appeared smooth and healthy. A portion of the squamous portion of the temporal bone immediately above the tegmen antri was removed with a trephine; the surface of the dura mater was healthy but the brain did not pulsate. The dura mater was opened by a curved incision and the brain was explored with a glass tube three-eighths of an inch in diameter. An abscess was found about one inch from the surface and more than three and a half ounces of stinking greenish pus and broken-down brain matter were evacuated. Two drainage-tubes were inserted and the amount of semi-solid material in the abscess being large the cavity was syringed out with boric acid lotion. One tube was left in and the mastoid wound was packed with iodoform gauze. On the following day the pulse was 82, the respirations were 20 and quite regular, and the temperature was 98 8°. The pupils were equal, reacting to light and not exhibiting the periodic variations noted above. The rigidity of the right arm persisted and she remained unconscious but resented interference.

On the second day some return of consciousness was noticed and the rigidity of the right arm passed off. The excreta were still passed involuntarily. In the afternoon there was a short rigor during which the temperature rose to 104 8°, afterwards falling to normal, from which it did not again rise during the convalescence.

On the fourth day after the operation she recognised her friends and regained control over the urine and fæces. As discharge persisted from the abscess cavity for some time the tube could not be removed until 26 days after the operation. As soon as consciousness was recovered a marked amnesic aphasia was noticed which only slowly passed away. Three weeks after the operation she wrote the names of her brothers as "Tom" and "Alfrom," knowing, however, that the latter was incorrect. Her perception of colours was accurate and her sense of taste and smell was quite unimpaired. Ammonia could not be named until she had taxed her memory for nearly three minutes, although she at once remembered that it was used for washing purposes and was to be obtained at a druggist's shop. A certain amount of mental instability was present; she was very easily excited and would laugh immoderately on the least provocation and was also easily moved to tears.

The patient left the hospital 37 days after the operation, the wound being healed and her mental condition being almost normal. 18 months later she was apparently perfectly well and got married. She was advised to have a

[2] THE LANCET, Dec. 26th, 1903, p. 1784.

radical operation upon the right mastoid, discharge from that ear still persisting, but her hearing power for conversation being almost perfect she could not be persuaded to consent to this.

On Nov. 11th, 1903, I was again asked by Dr. Oldfield to see the same individual. She had been in excellent health, with the exception of a persistent painless otorrhœa on the right side, up to eight weeks previously, when she commenced to suffer from headache chiefly on the right side. For three weeks she had felt ill, the appetite being poor and the bowels constipated. For a fortnight there had been occasional vomiting, some days not at all, on others two or three times in the 24 hours. During the preceding three nights there had been slight delirium and during the days an increasing drowsiness, the temperature being constantly subnormal and the pulse about 80. When seen on the 11th she was very drowsy but resented interference and complained constantly of intense pain on the right side of the head. The temperature was 97°, the pulse was 72, and the respirations were 24. The pupils were equal, they reacted to light, and were of average size. There was no optic neuritis. The knee-jerks were present and there was no rigidity or paralysis of any limb. There was no tenderness or swelling over the mastoid. The right auditory canal was full of pus, the drum was absent, and the bottom of the canal was filled with granulation tissue. The diagnosis was complicated by pregnancy of three months' duration, but it seemed clearly to point to intracranial suppuration secondary to the ear disease on the right side.

The patient was removed to the General Infirmary for immediate operation. The right mastoid was opened in the usual way and was found to be completely excavated and filled with stinking pus and broken-down cholesteatomatous material. A radical mastoid operation was performed. The bone forming the roof of the antrum and middle ear had been entirely destroyed by the disease and the dura mater, covered with granulation tissue, was exposed. Pus could be seen exuding through a small opening in the dura mater. The ridge of bone between the tegmen antri and the squamous bone was removed, together with a portion of the latter bone itself. The dura mater over the inferior temporo-sphenoidal lobe being thus well exposed was opened, the incision being carried downwards to the point where pus was exuding. The underlying brain was incised and more than three ounces of very offensive pus gushed out. The abscess cavity was cautiously explored with the little finger and was found to extend upwards for more than two inches and forwards and backwards for about one and a half inches in each direction. The lining membrane feeling very delicate the cavity was not washed out but a large drainage-tube was inserted. The pus was found to contain a pure culture of the bacillus coli communis.

On the following day there was a slight discharge from the tube; the temperature was 100°, the pulse was 92, and the patient's mental condition was much improved. On the fifth day the discharge was very slight, the pulse and temperature were normal, her mind was quite clear, her appetite was good, but constipation was still marked. The tube was removed on the sixteenth day. She left the hospital a month later, the wound being healed and her mental condition being perfectly natural.

On both occasions the points by which the diagnosis was established were the presence of a chronic otorrhœa, severe unilateral headache, subnormal temperature, slow pulse, drowsiness progressing into coma, and occasional vomiting. These are the only signs usually present in uncomplicated cases of temporo-sphenoidal abscess. From the size of the abscess the second and third temporal lobes on both sides must have been practically destroyed. On the first occasion the rigidity of the right arm and the aphasia indicated pressure upon, or extension of inflammatory œdema to, the internal capsule and the first temporal lobe.

The centres for taste and smell, and perhaps of hearing, are usually regarded as being located in the three temporal lobes.

In the case now recorded taste and smell have been very carefully tested with a variety of objects, each side and the tip of the tongue and each nostril being separately examined, but no defect whatever can be elicited. The hearing power on the left side, upon which the first operation was performed, is the same as after that operation and is reduced to ability to hear a loud whisper at a distance of six inches. The deafness is fully accounted for by the extent of the ear disease present before the operation was performed. On the right side a low whisper is heard at a distance of 30 inches, a watch at ten inches which a normal ear hears at 40 inches, and the ordinary speaking voice can be clearly heard at five feet. Although the disease must have destroyed the lower temporal lobes of the cerebrum on both sides taste and smell are absolutely perfect and the hearing power is so little affected that ordinary conversation can be followed with the greatest ease. The memory and general mental power are also absolutely unimpaired.

Leeds.

ON LATENT OR INTERMITTENT NASAL OBSTRUCTION.[1]

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THE object of my communication to-day is to ask you to consider with me a condition of things within the nose that up to the present has scarcely been entertained by rhinologists and certainly not with the apprehension that this condition was one of any moment or worthy of much consideration. I want to point out to you that there is a condition of things within the nose which is extremely common; that this condition, although extremely common, has escaped general recognition; and that this condition of things is potent for harm and is a source of many of the affections found within the throat, ear, nose, and post-nasal space. The terms "latent" or "intermittent" nasal obstruction are sufficiently descriptive of the condition I wish to discuss with you this afternoon. I suggest to you that, apart from the various forms of nasal obstruction due to growths, out growths, deflections, or what not, with which we are all familiar, there is a form of nasal obstruction that is more common and more harmful than all these put together. This form of nasal obstruction is latent—that is to say, it may come on in a nose that is physiologically perfectly patent and in which there is nothing abnormal to be seen. This form of obstruction may alternate with a condition of things in which the functions of the nose are perfectly performed and yet for 12 hours out of the 24 the nose may be absolutely occluded and the patient in a condition of extreme misery and discomfort. This intermittent form of nasal obstruction often eludes recognition and the surgeon is led astray because at the time of his examination the nasal chambers are perfectly free and patent and the functions of the nose are perfectly performed. I feel sure that no one present would resent the suggestion that more or less complete obstruction of the nasal chambers might be harmful to the individual and might lead to ear, throat, or nose troubles. If you admit that constant nasal obstruction is in many cases a cause of ear, throat, and nose troubles, I am not straining your imagination when I ask you to believe that intermittent nasal obstruction is also powerful for harm in the same direction. Or, in other words, if continuous loss of the functions of the nose results in trouble in the nose, throat, and ear I am here to contend that intermittent loss of the functions of the nose has a similar effect.

This, then, is the subject-matter of my remarks to you to-day. In order to understand properly this question we must have a clear idea of what are the functions of the nose and how the physiology of this organ is related to the physiology of the surrounding organs and to the economy in general. The nose has important relations with respiration, with digestion, with audition, with speaking and singing, with taste and smell, with sight, and with the various emotional states. The nose may also be looked upon as a respiratory organ in itself, as it is certain that a considerable interchange of gases takes place in its recesses and cavities. There is also some reason to believe that the nose is the safety valve of the brain. In order to appreciate fully the effect of the loss of the functions of the nose and the harm that may in consequence accrue to the individual we must first be in a position to appreciate their value. This can only be done by a careful survey and accurate knowledge of these functions as far as we are able. In order to obtain this we will discuss *seriatim* the nose in relation to the various functions I have enumerated.

[1] A communication read before the British Laryngological, Rhinological, and Otological Association on Jan. 29th, 1904.

And first of all with respiration and so through respiration with the circulation and oxidation of the blood. As baldly stated in the physiology books the nose warms, moistens, and filters the air, but how this is accomplished the learned writers of text-books have not attempted to explain. At first it is a little difficult to see how a stream of air some 30 or 40 cubic inches in value can become warmed, moistened, and filtered whilst passing through the nose in the space of two seconds. When, however, we examine the upper respiratory tract as a whole we see that it is not a channel or tube of one uniform calibre but that it presents several remarkable constrictions that alternate with equally remarkable expansions. We then begin to see that these constrictions prevent the very thing from taking place that we are told does take place—viz., that the air from the exterior passes slick through the nose from front to back and on into the lungs in a solid more or less cylindrical stream and does not mix with its surroundings. This is manifestly incorrect. If we look at the upper respiratory tract and view it as a whole we shall be surprised at the variations that it presents. Commencing with the external nares we find that the vestibule becomes narrower as it passes inwards and joins the nasal chamber opposite the nasal process of the superior maxillary bone. The vestibule or inlet to the respiratory function is cone-shaped and at its junction with the nasal chamber becomes so contracted as to constitute perhaps the narrowest point in the whole respiratory tract. It is curious to note that whereas the external nares are capable of expansion and contraction the calibre of the upper respiratory tract at its junction with the nasal chamber is rigid and unalterable, being surrounded by bony and cartilaginous borders. A limit is thus put to nasal respiration by the size of the anterior opening of the nasal chamber. After passing this narrow spot in the respiratory tract we find that the canal expands in a remarkable manner into the nasal chamber, which with its recesses constitutes a cavity of considerable dimensions. These recesses must not be dismissed from our calculations when studying the act of respiration. It is as sure and certain as anything can be that these recesses act not only as resonance chambers to the voice but as warming and mixing chambers, so that the air as it is admitted from the exterior in a raw and unprepared state is mixed with the contents of the nose and its recesses and so made ready to pass on into the pharynx and upper tubes.

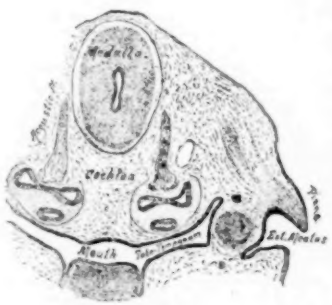
An observation I had the advantage of making on a healthy frontal sinus will go a long way in substantiating this fact. I opened a frontal sinus for exploratory purposes, and being very careful I removed the button of bone without injury to the lining of the sinus. At each inspiration the lining membrane was depressed and at each expiration bulged into the wound, proving incontestably that part of the contents of the nasal sinus is withdrawn during inspiration, to be replaced during expiration. The air then entering by the cone-shaped vestibule must do so with an increasing rate of speed till it has passed the narrows of the anterior opening. It must here lose much of its velocity and becoming slowed down will distribute itself in all directions, as regulated by the shape of the delivery tube of the vestibule. It is thus seen that as a stream of air it must be subject to and conform to the shape of the tract through which it passes and that the rate of motion of the air will be an average between the rates of motion in the narrowest and widest parts of the respiratory tract.

Passing onwards we come to a second marked narrowing, that of the posterior nares. This is crescent shaped and varies with the size of the posterior end of the inferior turbinal body. The cross section of this opening can only be a very small fraction of the cross section of the nasal chamber. Consequently the air in its passage backwards must be greatly delayed by having to pass this constriction, thus allowing time for the necessary warming, moistening, and filtering of the inflow. Following on this constriction is a remarkable dilatation, that of the pharynx extending from the base of the skull to the upper opening of the larynx. The nasal contents having passed the posterior opening of the nares linger in the pharynx and pass slowly on but with increasing speed to the larynx. The act of warming, moistening, and filtering is continued in the pharynx. So far we have traced the inflowing air to the larynx, and can surmise that the anterior and posterior constrictions of the nasal chamber serve a very good purpose in delaying and slowing down the air in its passage through the nose. The narrow anterior opening or inlet insures that the inflowing air shall be distributed and mixed with the nasal contents. The posterior constriction prevents the too rapid emptying of the nasal chambers by the powerful aspiration of the lungs. It is curious to note the alteration in the positions of the contents of the respiratory tract from the commencement of inspiration. At the commencement of inspiration the air in the bronchial tubes will pass in and fill the bronchioles and vesicles. The air in the larynx and trachea will follow on into the bronchial tubes and the air in the pharynx will pass on and take the place of the air in the trachea and large tubes, whilst the air in the nasal chambers will flow into the pharynx, larynx, and trachea. We thus see that the air passes in and mixes with and dilutes the impure reserve and residual air but cannot displace it. During respiration the impure expirate extrudes the contents of the pharynx and nose and fills the upper respiratory tract. This, no doubt, undergoes considerable purification in the chamber and recesses of the nose in the interval before the next inspiration.

I would here remind you whilst on the subject of respiration that this is the supreme function of the economy. The circulation and oxidation of the blood, not only in the systemic but portal system, is dependent on respiration. It is not unreasonable to suggest to you that any interference with the function of respiration and so with the proper oxidation and circulation of the blood for a considerable period in the 24 hours must be harmful and baneful to the individual. The functions of the nose are closely related to the functions of digestion, both directly and indirectly—directly by the interference with mastication that follows an obstructed nose. A person with his nose occluded cannot shut his mouth sufficiently long to masticate his food properly and consequently bolts the same before it is half divided to the detriment of his stomach. Again, the congestion of the pharynx and post-nasal space incidental to, and associated with, nasal obstruction upsets the stomach in more ways than one—directly by the amount of unhealthy mucus that passes into the stomach and indirectly by the constant irritation of the pneumogastric centre by the branches of the pharyngeal plexus.

The insanitary state of the mouth that follows mouth-breathing and the amount of contaminated and dusty mucus that must pass into the stomach (or what has been properly termed oral sepsis) is a considerable disadvantage to digestion. Seeing that the whole of the circulation of the liver and abdominal organs is carried on by the respiratory act, any interference with this must be of serious detriment to the absorptive functions of the alimentary canal and so a fertile source of slow digestion and other forms of dyspepsia. Digestion and respiration are so intimately associated that I seldom meet with a patient suffering from nasal obstruction in a marked and chronic form who escapes from symptoms of indigestion, sluggish liver, or other abdominal troubles.

Now what relation have the functions of the nose to the eye? The nose is the drain of the conjunctival sac. Nasal obstruction will cause epiphora and conjunctivitis and other troubles. The two functions are intimately and sympathetically associated. The same nerve and the same artery



Horizontal cross section through cochlea, tympanum, and external ear of rat about fourth week.

supply both. Any irritation in the nose is responded to by flushing of the conjunctiva and watering of the eye. The nose is the guardian of the eye. A strong light detrimental to the retina will cause sneezing and so prevent further damage by altering the position of the head and casting the

eyes to the ground or closing them altogether. Congestion in the nose will be followed by fulness of the retinal veins and congestion of the conjunctiva. The nutrition of the nose and eye are intimately associated. The ophthalmic and sphenopalatine ganglia are anatomically and physiologically closely related.

Passing on to the relations of the nose to the ear it is not surprising to find that these are peculiarly sensitive. The middle-ear or tubo-tympanum is developed from the nose by two finger-like prolongations. It is simply a prolongation of the nose cavity. The cavities of the nose and ear are practically one. Any increase or decrease of tension within the nose is immediately felt and communicated to the contents of the ear. It is not difficult to realise that whatever affects the main cavity of the nose will affect its various recesses and prolongations. The unity of the nose and middle ear must be taken into consideration and fully realised as the first and essential step in the proper understanding and treatment of many of the affections of this cul-de-sac. There is little doubt that in normal nasal respiration both inspiration and expiration are felt in the tympanic cavity and that a slight movement of the membrana tympani takes place inwards with inspiration and outwards with expiration, the same as has been recorded in the frontal sinus. In corroboration of this may be mentioned the fact that when one is listening very carefully for a sound the mouth is opened and respiration is suspended or carried on very gently by way of the mouth in order to annul (I suggest) the oscillations incidental to respiration.

The relations between the functions of the nose and the voice are peculiarly apparent. Besides preserving the covering of this organ in a healthy condition the nasal chamber is the delivery tube of the voice as well as its resonator. The functions of smell and taste are almost entirely dependent on the patency and proper functioning of the nose and must be entirely annulled if the nose be occluded. And lastly, there are some grounds for supposing that the nose is the safety-valve of the brain by acting as a drain to the arachnoid cavity. We know that the arachnoid sheath is continued through each opening in the cribriform plate and surrounds the olfactory nerves almost to their terminations. The confusion of intellect, the forgetfulness, the difficulty of concentrating the thoughts, the headache, the morning drowsiness, and other mental symptoms that are associated with nasal obstruction may well be due to increase of arachnoid fluid and congestion following on nasal obstruction and the consequent arrest of the functions of the nose. There may be some reason, also, for believing that some at least of the large quantity of moisture that is taken up by the inspired air comes from the arachnoid fluid. Again, the pathological conditions known as hydrorrhœa, where pints of fluid are discharged from the nasal cavities, associated with polypi and other abnormal states, can more easily be explained by the assumption of an outflow from the arachnoid extensions into the nose modified possibly by infiltration. In order to remind you of the relation of the functions of the nose to the emotions I would ask you to imagine Mr. Tree or Sir Henry Irving in any of their great parts with an obstructed nose and an open mouth. The emotional display of the face would be quite impossible and these actors' efforts ruined.

The relations of the nose to the sexual function is well marked in some of the carnivora but may, I think, be altogether discarded when dealing with the genus homo.

Now you will agree with me that the nose is not an unimportant or idle organ and is well worthy of your best care and consideration. I will now return to our main subject and explain to you more fully what is meant by latent or intermittent nasal obstruction, the mechanism of its production, its diagnosis, and lastly, if I have time, I shall say a few words as to treatment. I can more easily explain to you the exact condition to be known as latent or intermittent nasal obstruction by citing you one or more out of the large number of cases I have records of. In 1895 I was consulted by a medical man who gave the following account of himself. He was 63 years of age and for the last 14 or 15 years he had been troubled with his nose becoming occluded at night and at other times. His general health, he said, was indifferent, he was easily fatigued, and suffered from flatulent dyspepsia, headache, and deafness. His sleep was constantly disturbed at night and he awoke in the morning unrefreshed and tired. He said that for years he had suffered from catarrh in the nose and head, but lately things had become so much worse that he felt sure he would go out of his mind if something was not done for him. This gentleman was a tall, pale, liverish looking person with the look of suffering stamped on his face. I ascertained that he had treated himself with washes, snuff, and inhalations, but with little effect, and that he had been under the care of a distinguished physician who assured him that his heart, lungs, and abdominal organs were sound. I found in his present condition nothing that one could lay one's hands on and label as disease. The throat was pale and anæmic, the interior of the nose was pale, and the mucous membrane was if anything anæmic. There was ample room for nasal respiration and nothing abnormal or irregular was apparent save one sign which I venture to suggest was the key to the whole situation. On either side of the septum there was the tell-tale hollow or groove the exact cast of the lower turbinal body. Beyond this there was nothing to indicate that the nose had been anything but free night or day. Well, with this physical condition of complete freedom of nasal respiration and the absence of anything abnormal with the nose this patient was on the very verge of melancholia from the misery and discomfort of complete nasal occlusion so soon as his head was placed upon the pillow. The functions of the nose were here intermittently performed. For 16 hours the nose was free, for eight hours it was closed. Yet this nocturnal occlusion was quite sufficient to affect and put out of gear all the correlated functions of the nose and to bring the economy almost to a standstill.

An almost exactly similar case was that of a barrister sent to me from Dublin by a member of this association. These are extreme but typical cases and happily, I am glad to say, are few and far between. The commoner forms of intermittent nasal obstruction present symptoms of less severity. In many cases there is only the slight hoarseness and morning cough and difficulty in clearing the throat on rising in the morning. There may only be a tendency to flatulent dyspepsia or distension after meals. The hearing may not be quite so good as it was, and the patient may tell you he thinks he is getting deafer, until he finds out he is suffering from a marked degree of deafness. This is constantly the only symptom of intermittent nasal obstruction. I believe that in intermittent or latent nasal obstruction we have a valid and sufficient explanation for the existence of that large class of slow insidious painless forms of ear trouble known as chronic progressive deafness. Given an occlusion of the nose for eight out of the 24 hours and you have all the factors ready, and able to produce occlusion of the Eustachian tubes, congestion of the tympanic cavity, and depression of the drum-head and the subsequent physical changes known as sclerosis. This explanation is worthy of your consideration and the more I live and learn the more assured I am of its soundness.

I have on more occasions than one insisted that there is an intimate relation between intermittent nasal obstruction and the affections of the other recesses and extensions of the nose, and the same anatomical and physiological facts that govern the recess of the middle ear apply equally with all the other extensions of the nose. The tympanic cavity and the antrum or frontal sinus are on all fours with each other. They have a common origin, their lining membrane is similar and continuous. They are subject to the same variations in air tension and supply and they are subject to the same affections. I have recently exhibited to you a case of frontal sinus trouble where the suppuration was kept up for three years by occlusion of the nostril on the same side from collapse of the wing of the nose and enlargement of the turbinal body. On reducing the turbinal body and supporting the wing the suppuration promptly disappeared. Uncomplicated chronic suppurations of the accessory cavities of the nose are induced and maintained by intermittent obstructions of the nose. This applies equally to the aural accessory cavity.

The obstinate discharges from these cavities that continue sometimes after operations are to be explained when intermittent nasal obstruction is present. We have heard a good deal lately about the etiology and treatment of polypi. My experience is that when these growths are properly removed and the nose is properly ventilated and nocturnal nasal obstruction is prevented they do not return. I have one case which illustrates my meaning perfectly. I operated on a man whom I exhibited in this room as a typical martyr to asthma and who was relieved by clearing his nose from polypi. Well, these growths recurred and required removal off and on for 11 years. In the earlier periods of my treatment I took no account of the fact that he was completely

obstructed at night time and yet was free during the day. The asthma was better when the nose was cleared, but returned with the obstruction. Some four or five years ago I operated on both lower turbinal bodies. I have never had occasion to treat him medically since and his nose remains perfectly free from polypi to this day. I believe that intermittent nasal obstruction plays an important part in the production and recurrence of polypi. Much more could I say on this important subject but the time at my disposal will not suffice for a more extended view.

We pass now to the subject of diagnosis. How do we know when intermittent nasal obstruction is present or not? If there is nothing abnormal to be seen in the nose and if the functions of nasal respiration are perfectly and adequately performed, by what signs shall we be able to recognise this form of obstruction? In latent or intermittent nasal obstruction the obstruction, as a rule, occurs at night time when the head is on the pillow and the body is more or less in a horizontal position. When up and about, as in sitting, walking, or standing, there is seldom obstruction except on passing from a cold to a warm atmosphere and sometimes when drinking hot liquids or taking spiced or pungent meals and after alcoholic drinks. In the vertical position of the trunk gravity retains the venous blood in the great vessels of the neck, the chest, and the abdomen. On assuming the horizontal position the blood flows into the veins and sinuses of the head and neck in response to the same force. When sleeping the arteries become smaller in calibre and the veins become larger so that the veins of the head and neck contain relatively more blood. The cavernous tissue and the mucous membrane of the nose become when lax and atonic distended mechanically by the increased intravascular pressure caused by the mere inflowing of blood to these parts. The distended turbinal bodies approach the septum on either side and press upon it so vigorously as to form a groove or exact cast of themselves and completely to obliterate the lumen of the nasal chambers. The erectile tissue on the floor and the lower part of the septum helps to complete this. The groove then is to be sought for and is undoubtedly evidence of the condition I am attempting to describe to you. It is, indeed, more than evidence, it is pathognomonic of intermittent nasal obstruction and is the only objective sign that will present itself to you. With subjective symptoms of laryngeal, throat, nose, or ear trouble, and the objective sign I have described to you you have all the evidence you require to make the diagnosis of intermittent nasal obstruction. I place no credence on the answers of patients to the question as to the method of breathing at night. Some, very often the worst cases, will indignantly repudiate the suggestion that they breathe through the mouth at night, yet will in the same breath tell you that they awake with the tongue dry and are always anxious for a cup of tea in the morning.

The subject of treatment will involve much time and consideration and as I feel I have already occupied a large measure of your time and, like yourselves, am anxious and looking forward to the Presidential address, I will postpone the subject of treatment to a more opportune moment. If in the remarks I have made I have given you any suggestions worthy of your acceptance or set you thinking on this important subject I shall be more than amply repaid for the anxiety and labour attendant on this communication.

Harley-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF COMA APPARENTLY DUE TO DISTENSION OF THE BLADDER.

BY ROBERT MAIN, L.R.C.P., L.R.C.S. EDIN., M.D. BRUX.

ON Saturday, Jan. 23rd, at 5.30 P.M., I was asked to see a middle-aged man who was said to be in a fit. I found him in bed in a completely unconscious condition, with twitching of the facial muscles, lividity of the face, no eyelid reflex, and stertorous breathing. The only history obtainable was to the effect that he had come from Southend on a visit to a near relative and that at the time of his arrival he appeared to be in good health. He had gone to bed on Friday night perfectly well and intending to keep an appointment on Saturday morning. He had his breakfast in bed about nine o'clock but at that time he had some pains in his back and in a general way did not feel well. He had his dinner in bed about 1.30 P.M. and said he was going to sleep. The symptoms were suggestive of uræmic coma. The chamber utensil, however, was half full of urine which I examined. It only deposited a trace of phosphates on heating and otherwise was normal. In the abdomen there was a fairly hard mass extending up to the umbilicus. I immediately passed a soft indiarubber catheter (No. 6) which entered the bladder with ease and drew off a large quantity of blood and urine. I passed the catheter again at 10 P.M. and withdrew half a pint of smoky urine. The patient did not recover consciousness until 4 A.M. next morning, having therefore been quite unconscious for a period of nearly 11 hours. He has been quite well ever since with the exception of inability to micturate. On Jan. 27th I again examined the urine and found it to be normal with an excess of acidity. There was no stricture or prostatic enlargement.

Finsbury-park, N.

AN UNUSUAL CASE OF SALICYLIC ACID POISONING.

BY J. KENNEDY MATHESON, M.B., CH.B. EDIN.,
HOUSE SURGEON, BRADFORD CHILDREN'S HOSPITAL.

A BOY, aged nine years, was admitted in December, 1903, to the wards of the Bradford Children's Hospital under the care of Mr. Isaac Mossop, suffering from extensive erythema iris. Nearly the whole body was affected, the disease being most marked on the lower part of the abdomen and the upper part of the thighs. In many places the bullæ at the margins had broken, leaving masses of scabs, whilst elsewhere their contents were of a purulent nature. Starch poultices were employed for several successive days until all the scabs were removed and then Lassar's paste, a preparation containing salicylic acid, was applied and iodide of potassium was given internally. Marked improvement took place under this treatment. 17 days later the boy began to complain of severe headache and sore-throat; there was also a slight rise of temperature. The symptoms grew worse, the patient's headache becoming very severe. He was sleepless and verging on delirium, calling out about the noises in his ear. His temperature went up on successive nights to 103.6° and 104.2° F. The heart's action became weak and irregular. When visiting the wards on the night when the highest temperature occurred I ordered the Lassar's paste to be omitted and put the patient on stimulants. Three days later all the symptoms had disappeared and the boy's general condition was as before.

The interest in this case lies in the mode of introduction of the poison by absorption through the skin. It may serve as a caution against the too prolonged use of this paste which is no doubt very useful in skin affections, especially those of an eczematous type.

Bradford.

THE VERMIFORM APPENDIX ADHERENT IN A HERNIAL SAC AND BY OCCLUDING THE DISTAL PORTION OF THAT SAC LEADING TO THE FORMATION IN IT OF A HYDROCELE.

BY W. P. GOWLAND, M.B., B.S. LOND., M.R.C.S. ENG.,
SENIOR HOUSE SURGEON TO THE LINCOLN COUNTY HOSPITAL.

A WOMAN, aged 56 years, was admitted to the Lincoln County Hospital with a tense swelling of about the size of a hen's egg in the right groin. There was no impulse on coughing and the swelling was quite mobile from side to side but was fixed in the line of the inguinal canal. It was first noticed by the patient three weeks before admission and was then about half its present size; a medical man had withdrawn clear fluid with an exploring needle and the diagnosis made was hydrocele of the canal of Nuck.

Operation was performed on August 15th, 1903. The sac

was exposed and isolated. Its neck was found to be rather tightly nipped by the pillars of the external abdominal ring and these were incised. The sac containing fluid was then found to be the distal portion of a peritoneal diverticulum, the proximal part of which contained the appendix. The diverticulum was much narrowed at the external abdominal ring and here the appendix was adherent by its apex to the walls of the sac. The appendix was amputated, the sac was ligatured and its distal portion removed, and a radical cure was performed. Recovery was uneventful and the patient has remained well since.

This case seemed worth recording in view of the fact that according to Erichsen a true hydrocele of a hernial sac—i.e., an accumulation of fluid in a part of the sac that has been cut off from all communication with the cavity of the peritoneum—is somewhat rare. Further, in THE LANCET of Jan. 30th, 1904, p. 296, under the heading of "Clinical Notes," a similar condition was described, though there the appendix itself was mistaken for a hydrocele.

I am indebted to Dr. W. A. Carline, senior surgeon to the hospital, for permission to publish this case.

Lincoln.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Anæmia Pseudo-leukæmica Infantum.

A MEETING of this society was held on Feb. 9th, Mr. ALFRED WILLETT, the President, being in the chair.

Dr. J. H DRYSDALE and Dr. J. H. THURSFIELD communicated a paper on Anæmia Pseudo leukæmica Infantum of von Jaksch. They said that in the year 1889 von Jaksch described a type of anæmia occurring in infancy which he believed to be different from any of the recognised varieties; he accordingly proposed for it the name by which it had been known since upon the continent, though in this country it had been more usually called the splenic anæmia of infants. The chief interest in connexion with the disease had centred in the controversy whether it was to be regarded as a disease *sui generis* or as a mere complication or sequel of any severe anæmia occurring in infancy. Dr. Drysdale and Dr. Thursfield held to the first opinion and endeavoured to set forth the reasons of their belief. A short *résumé* of the clinical features of the disease was followed by a more detailed account of the symptoms which appeared to them to be characteristic of the complaint; briefly enumerated they were a profound anæmia of gradual onset and chronic duration; an enlargement of the spleen, such as was met with in no other form of anæmia of infancy except in the rare cases of true myelogenic leukæmia; a tendency to petechial hæmorrhages; and a constant and peculiar change in the condition of the blood. The precise changes in the blood were explained and summarised on the basis of a considerable number of examinations made in cases of this type and the results were contrasted with those obtained from infants suffering from severe anæmias of other types. Lastly, the relations of this disease with some of the other anæmias, which were commonly met with in infancy, were considered and stress was laid on the fact that this type had never under observation developed from any of the other varieties. Tables were appended giving (1) a statement of the cases on which the paper was based; (2) a detailed account of the blood examinations; and (3) a *résumé* of the blood examinations made in certain other anæmic conditions of infancy.

Dr. R. HUTCHISON said that he wished he was as certain as Dr. Drysdale and Dr. Thursfield seemed to be that the disease was *sui generis*. He doubted if they were justified in regarding the disease as a definite entity whilst the pathology remained so uncertain. The changes in the blood could not be regarded as forming a feature distinctive of this disease, for in severe rickets and in severe congenital syphilis changes in the blood were met with which approximated closely to the condition found in this disease and it was impossible to mark off the disease so sharply as Dr. Drysdale and Dr. Thursfield made out. He thought that the anæmia was probably due to insufficient and incorrect feeding and the rickets which not infrequently accompanied the disease was due to the same cause. He next dealt with the relation of this disease to true leukæmia and stated that in his opinion there were not more than two or three cases reported of true leukæmia in children below the age of two years. He said that there was nothing characteristic in the morbid anatomy and exactly similar changes were found in the organs in fatal cases of rickets. Even the bone marrow presented no characteristic change. He was of opinion that this disease might be a secondary anæmia, possibly due to some specific cause which had yet to be discovered.

Dr. E. P. BAUMANN said that on the main issue—namely, the question of the existence of this disease as an entity—he was in complete agreement with the view put forward in the paper. In other points, however, he differed from some of the conclusions. In the first place, he was of opinion that the title anæmia pseudo-leukæmica infantum was cumbersome and unnecessary. Pseudo leukæmia was the term by which Hodgkin's disease was commonly known abroad. Now there was no apparent connexion between Hodgkin's disease and the disease under discussion. Nor did this disease resemble very closely the condition of leukæmia. He was therefore inclined to adhere to the simple name of splenic anæmia of infants. He was surprised at the number of cases of recovery (from 60 to 70 per cent. according to the table). Of seven cases which he had had the opportunity of observing during the last two years at the Hospital for Sick Children, Great Ormond-street, six patients died in hospital and one went out improved. Among out-patients, where the cases would not all be severe, the mortality would doubtless be lower. Nevertheless, allowing for this he still believed the disease to be a very fatal one. Turning to the consideration of the condition of the blood Dr. Drysdale and Dr. Thursfield obtained an average leucocyte count of 24,100 and their table showed figures reaching in some instances to more than 50,000 leucocytes per cubic millimetre. In his own case an average of from 12,000 to 14,000 per cubic millimetre was present. The largest number found in any case was 20,000. Dr. Drysdale and Dr. Thursfield seemed to attach little importance to alterations in the shape and staining reactions of the blood corpuscles. It had always appeared to him that this alteration in shape formed one of the most striking features of the disease. In some cases the polymorphous character of the blood corpuscles had been so striking as to simulate pernicious anæmia. As regards the etiology of the disease he had noted the large incidence of splenic anæmia among the children of Polish Jews. Syphilis existed in a far larger number of his cases than in those reported in the paper. In only one case could a specific taint be definitely excluded; in three cases the existence of syphilis was strongly suggested either by the history or the appearance of the child; while in the remaining cases the patients were obviously suffering from congenital syphilis. The mere fact that mercurial treatment did not cure the splenic anæmia was of no great significance, for it was well recognised that parasyphilitic disease did not generally benefit by antisyphilitic treatment. The majority of the patients, too, suffered from rickets. He, however, agreed with Dr. Drysdale and Dr. Thursfield that splenic anæmia was a disease *sui generis* and that it could not be considered to be secondary to any other disease.

Dr. G. NEWTON PITT suggested that the condition of the blood was evidence of a reaction against some toxic condition. In the cases reported there were periods in which the leucocytosis varied and this seemed to him to point to a process of reaction rather than to a specific infection. He suggested that the disease might bear some relation to splenic anæmia of the adult—Banti's disease.

Dr. NORMAN MOORE said that Sir William Jenner had always taught that an enlarged spleen was a common characteristic of rickets and he thought it probable that the enlargement of the spleen and the rickets were produced by the same cause.

Dr. DRYSDALE, in reply, said that he considered that the clinical features of the disease, together with the condition of the blood, formed a definite picture which entitled the disease to be regarded as an entity. He did not consider syphilis as a cause of the disease. Syphilis was present in a certain number of cases but in others it could be definitely excluded. He did not think that the disease in any way resembled splenic anæmia of the adult.

Dr. THURSFIELD said that it had never yet been proved that splenic anæmia developed out of any other form of anæmia and this he considered another point in favour of the view of regarding the disease as a clinical entity.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 8th, Dr. CHARLES E. BEEVOR, one of the Vice-Presidents, being in the chair.

Mr. W. G. SPENCER exhibited (for Dr. F. DE HAVILLAND HALL) a case of Ascites occurring in a married woman, aged 30 years. Dropsy first appeared four years ago after a confinement and she had been tapped ten times in the Westminster Hospital. In December, 1902, Mr. Spencer opened the abdomen and stitched the omentum to the anterior abdominal wall. A month later the patient left the hospital free from dropsy but in about six weeks fluid began to collect again. On March 4th, 1903, she was readmitted into the hospital with a large amount of ascites and great œdema of the legs. A soft systolic murmur was audible at the cardiac apex. The urine contained a small quantity of albumin. On March 10th Mr. Spencer made an incision through the old scar, the omentum was pushed aside, a large amount of fluid was evacuated, and the cavity was left to drain. On April 2nd the operation wound was nearly healed. The patient was discharged on April 25th free from dropsy and had re-married since. At the present time there were slight œdema of the ankles and a systolic and a presystolic murmur at the apex.—The case was discussed by Dr. C. THEODORE WILLIAMS, Dr. ALEXANDER MORISON, and Dr. H. A. CALEY.

Dr. V. WARREN LOW showed a case of Extreme Atrophy of both Testicles due to Syphilis in a man, aged 39 years, who had had a chancre followed by rash 12 years ago. He did not notice the diminished size of his testicles till his attention was drawn to it at the hospital some 12 months ago. He was then suffering from tertiary syphilitic ulcers on both legs and for these he had been under treatment off and on for a year. The right testicle could still be felt and was of about the size of a horse bean. There were certain symptoms pointing to incipient tabes dorsalis.

Dr. F. PARKES WEBER exhibited a case of Neurotic Alopecia of the Scalp and Face after Shock. The patient was a man, aged 39 years, who had lost both eyebrows and eyelashes and almost all the hair of his scalp and that of the lower part of the face. There was a history of a mental shock in August, 1902, and of hæmoptysis in November of the same year, and the hair had commenced to fall off in the following March, the eyebrows being affected only for four or five weeks.—The case was discussed by Dr. ALFRED EDDOWES and Mr. G. PERNET who did not agree that the origin of the baldness was neurotic.

Mr. RICHARD LAKE exhibited a case of Menière's Disease in a patient, aged 21 years, who presented four symptoms—viz., deafness, tinnitus, vertigo, and sickness. The tinnitus had been continuous and hissing in character. The attacks of vertigo and sickness varied in frequency and intensity. They had been more frequent and more severe for the last two years. Actual vomiting did not always occur with, and never relieved, the vertiginous attacks. The patient felt inclined mostly to fall forwards or backwards and objects had no regular plane in which they rotated. Several drugs had been tried but had been found useless.

Dr. CAREY F. COOMBS (introduced by Dr. CALEY) exhibited a case of Cerebellar Disease with unusual features. The patient was a boy, aged 13 years, who came under the care of Dr. Robert Maguire at St. Mary's Hospital in October, 1903, for inability to walk or to stand. This had come on about three weeks before suddenly and without any preceding headache or other symptoms. The only other thing noticed by his friends was that his speech was altered in character. On Oct. 20th it was noted that the gait was of a reeling cerebellar type, the patient falling more to the right. The hands were ataxic and there were tremor of the eyelids and slight nystagmus; the pupils and optic discs were normal. The knee jerks were increased and there was plantar extensor response on both sides. The sudden onset and the gradual improvement under iodide of potassium were the most notable features.—The case was discussed by Dr. BEEVOR and Dr. WILFRED HARRIS who suggested thrombosis as a probable diagnosis.

Mr. G. E. GASK exhibited a case of Ossification of Tendons of the Leg in a man, aged 45 years. Three weeks before the patient had experienced some pain in the left leg and thigh which he attributed to rheumatism. On rubbing his leg he discovered a hard swelling on the outer side of the left leg, three and a half inches long, apparently in the peroneus muscle. There was no history of injury. The skiagram showed a shadow of a dense substance unconnected with the fibula.—Mr. EDMUND OWEN and Dr. CALEY discussed the condition and mentioned other cases.

Dr. J. KEOGH MURPHY exhibited a case of Meningocele (?) through the Left Parietal Foramen. The patient, aged three months, was otherwise a healthy infant. The swelling on the head was noticed from birth and was said to increase during straining. On Dec. 14th, 1903, there was noted a nævoid umbilicated swelling half an inch square to the left of the middle line, and this was irreducible. On Jan. 4th, 1904, the swelling could be entirely reduced and the bony edge felt. On Jan. 25th there was a slight increase in size but it was still easily reducible. There were no cerebral symptoms.—The case was discussed by Mr. H. S. COLLIER who thought the lesion might be a dermoid cyst.

Dr. MURPHY also brought forward an infant exhibiting Congenital Deformities.

Mr. H. J. WARING showed a case of Repair of Traumatic Deficiency in the Skull by a Gold Plate. The patient was a soldier, aged 22 years, who was shot in the left occipital region on Jan. 28th, 1901, by Boers outside Kimberley. He was said to have been unconscious for three weeks and afterwards remained in a Boer hospital for five months. He was subsequently invalided home. A circular hole two inches in diameter was then found in the left occipital region of the skull and through it protruded a soft fluctuating swelling. The patient was subject to epileptiform seizures. An exploratory operation was performed and a cyst of the arachnoid, which was found bulging through the aperture, was removed. The aperture in the skull was closed by placing a circular gold plate, three inches in diameter, over the hole and fixing it with gold nails, over which the periosteum was sutured. The patient made a quick recovery and had had no further cranial symptoms.

Mr. OWEN showed a case of Ischæmic Paralysis in a man, aged 38 years, who about two years ago had had the upper end of his right ulna fractured in two places by a blow from the spoke of an iron fly-wheel. Two hours subsequently the arm had been put up in a very tight plaster-of-Paris bandage which was passed chiefly round the elbow region. Next day the lower part of the forearm and the hand were swollen and some blebs had appeared and the bandage was then removed. The forearm was now much wasted, the flexor muscles being indurated and rigid. The forearm was pronated and fixed. Sensation was greatly impaired in the hand. The metacarpal bones stood out in strong relief because of the complete atrophy of the interossei and other muscles. Though this condition was unfortunately often met with in children it was rare in the adult. Mr. Owen had, however, shown a similar case at this society about three years ago. The condition was probably due to the tightness of the bandage which had kept the muscles anæmic during the night and had so injured them that a myositis had supervened and this had been followed by atrophy and fibrosis. No doubt the nerves of the forearm had also shared in the pathological disturbance. The outlook as to treatment seemed extremely unpromising.—Dr. WILFRED HARRIS and Dr. BEEVOR both expressed the view that injury to the nerves of the forearm would sufficiently account for the condition without myositis or anæmia of the muscles.

PATHOLOGICAL SOCIETY OF LONDON.

The Organisms of Monkey Malaria and Sleeping Sickness.—Agglutination.—Iron Hæmatoxylin Staining.

A MEETING of this society was held at the Lister Institute on Feb. 2nd, Sir JOHN BURDON SANDERSON, the President, being in the chair.

Mr. H. G. PLIMMER showed the Organisms of Monkey Malaria and Sleeping Sickness under high magnification. The latter organism he demonstrated under a magnification of 5000 diameters. He showed the arrangement of light and lenses necessary for obtaining suitable illumination for such magnification.

Mr. J. ANDERSON CRAW read a paper on the Mechanism of Agglutination. He said that in view of the large number of hypotheses advanced to account for the phenomenon of agglutination and the purely qualitative nature of the observations advanced in support of the same it was considered

advisable to investigate the matter from a quantitative and physico-chemical standpoint. Only after a thorough investigation of the physical and chemical actions involved could a definite conclusion regarding the value of agglutination in diagnosis be arrived at. Recently views which he considered to be quite void of foundation had been advanced to account for the mechanism of this reaction and it seemed justifiable to submit these and other hypotheses to the test of criticism and experiment on a physico-chemical basis, as an article by Dr. A. E. Wright in THE LANCET[1] lately showed how difficult it was to grasp the significance of the physical forces involved. Gruber's hypothesis that a glutinous substance "glabrificin" was absorbed by the bacilli from the serum forming small adhesive prominences on their membranes which caused the cells to adhere on contact was insufficient, for dispersed non-motile bacilli agglutinated and staining failed to show any abnormality of the membrane. Pfeiffer's hypothesis that the specific serum substance caused a vital paralysis was disposed of by the facts that after absorption of the specific substance the cells remained motile and the addition of salts caused agglutination, but reproduction did not cease; again dead bacilli and fragments of cell membrane agglutinated. Paltauf's hypothesis that a specific precipitate was produced in the fluid which during flocculation mechanically carried the bacilli with it was disproved by the agglutination of washed and young bacilli in media which gave no precipitate and also by the formation of a specific precipitate without simultaneous agglutination. Nicolle's hypothesis eluded the objections to Paltauf's hypothesis by assuming the specific precipitate to be produced in the membrane, but the latter was supposed to dilate and to become glutinous, which was open to the objections raised against Gruber's hypothesis. Dineur considered the cilia to be chiefly instrumental in agglutination, they became glutinous and adhered, but cells without cilia agglutinated. The Emmerich-Löwe view that agglutination was the first stage of the bacteriolytic action of enzymes was discredited by the partition of agglutinin between medium and cell, by the specific nature of the agglutinins, and by agglutination brought about by chemical agents of non-enzymic character; again the bactericidal enzymes might be destroyed by temperatures at which the agglutinins remained unaffected. Duclaux supposed that the bacilli ejected a coagulable substance which was precipitated by a coagulating enzyme, the precipitate carrying the bacilli mechanically together. Bordet's hypothesis divided the phenomenon of agglutination into two stages: (1) fixation of agglutinin by the bacilli and (2) coagulation by salts. In the first place, the organic nature of the cell governed the action; in the second, the cells obeyed the laws of inert particles—e.g., clay suspension and precipitates. Recently Joos had investigated the action of common salt during agglutination and concluded that Bordet's hypothesis could not be maintained. The important work of Joos could, however, be interpreted in a manner distinctly supporting the fundamental principles of Bordet's hypothesis. Joos's admirable experiments were mostly qualitative; exact quantitative measurements were now in progress at the Lister Institute. If dialysed serum was added to dialysed bacilli the specific substance agglutinin was found but the cells remained motile and no agglutination took place. The addition of a "trace" of salt caused agglutination. Joos considered that the agglutinable substance formed a soluble compound with the agglutinin and this was precipitated by such a small quantity of salt that it must be assumed that the latter reacted chemically. From the facts that salt entered into the compound agglutinable substance, agglutinin, and that agglutination took place when bacilli containing salt and agglutinin were placed in distilled water he (Joos) concluded that the salt was chemically active and not physically passive. This conclusion could not be admitted, as all precipitated albuminoids absorbed the precipitating salts and salt in the second case would diffuse into the media. It was immaterial whether the salt formed a chemical compound or not; the action was probably one resembling solution. The second phase of agglutination, the more difficult to explain, could best be investigated by a study of the laws governing sedimentation and precipitation. The first phase had to a certain degree been admirably probed by Eisenberg and Volk, a lucid interpretation of their results being given by Arrhenius. The agglutinin distributed itself between the medium and the bacilli, much as iodine was distributed or partitioned between water and carbon disulphide. In the latter case the ratio of iodine concentration in water to the iodine concentration in carbon disulphide was constant, no matter how much iodine was added. Similarly a constant partition coefficient, but of a more complex nature, could be obtained for the partition or division of agglutinin between aqueous medium and organisms. Arrhenius concluded that the bound and free agglutinin molecules had a different number of parts in the ratio of 2 to 3. It was from results obtained in conjunction with Dr. Allan Macfadyen at the Lister Institute highly probable that the partition coefficient for agglutinin between medium and organism varied for different parts of the cell, flagella, membrane, and cell juice and quantitative experiments in this direction were in progress. As regards the second phase of agglutination an investigation of sedimentation and the precipitation of colloids had been carried out. A radically different view from current ideas on this subject had been arrived at. Bodländer found that a suspension of kaolin in distilled water was rapidly sedimented by electrolytes. Joly's experiments on silt demonstrated that the divalencies of the alkaline earths had a greater sedimenting value than the monovalent alkaline metallic ions. Similar experiments had been made to determine the influence of electrolytically dissociated or ionised substances on colloidal solutions. Hardy measured the concentration of hydrochloric, nitric, sulphuric, oxalic, and citric acids necessary to precipitate colloidal iron oxide to the same degree of turbidity in the same time and calculating from his results one citric acid ion had about the same effect as 740 chlorine ions, while one sulphate ion had the value of about 280 chlorine ions. From the facts that the anion of citric acid was trivalent, that of sulphuric acid divalent, and that of hydrochloric acid monovalent it had been assumed that the number of electric charges on the ion determined its precipitating and sedimenting value. Bredig had advanced the view that in these phenomena of sedimentation, precipitation of colloidal solutions, and the action of enzymes, we were really dealing with electrocapillary phenomena to which we could apply the Helmholtz hypothesis of electric double envelopes. According to this hypothesis the layer between colloidal particle and aqueous solution had a "natural" surface tension diminished by the electric repulsion of any positive and negative ions or electrons that happened to form part of the surface of separation. When the "natural" potential difference of a colloid against an aqueous medium was neutralised by the addition of an electrolyte the surface tension of the particle should become a maximum. This was highly improbable. Current views were founded on the electro-capillary phenomena of the Lippmann electrometer. From a two years' study of the influence of electrolytes and non-electrolytes on the surface tension and potential difference of mercury against aqueous solutions he had demonstrated that the Helmholtz hypothesis was untenable. Mercury in certain solutions might have a maximum surface tension and at the same time be highly charged with respect to the aqueous phase. Similarly by the addition of non-electrolytes to suspensions it had been found that surface tension effects played a more important rôle than electrical potential differences. Amyl alcohol, butyric acid, camphor ethyl benzoate, and other substances influencing the surface tension of water showed marked and similar effects in accelerating sedimentation, precipitation, and agglutination. Ions had all the properties of ordinary chemical units in addition to their electrical effects and the surface tension effect of an ion might have no direct relation to its electrical effect. Friedberger showed that grape sugar could induce the second phase of agglutination and electrical effects in this and other cases were practically eliminated. In conclusion, the first phase of agglutination was in many respects similar to solution absorption or staining and the second phase an absorption and surface tension effect.

Dr. A. PAINE read a communication the title of which was a New Method of Staining with Iron Hæmatoxylin. His object was to bring forward a new method of using iron hæmatoxylin as a chromatic and cytoplasmic stain, but before doing so he briefly referred to the processes of Benda and Heidenhain, which by acknowledged authorities were the best of their kind. Iron hæmatoxylin belonged to the so-called hæmatin lakes. There were three principal lakes of hæmatoxylin, those it formed with copper, chromium, and iron. Of these only the iron compound had remained in general use and for the purposes of histological research it

[1] THE LANCET, May 9th, 1903, p. 1299.

was one of the most valuable stains they possessed. In both Benda's and Heidenhain's processes the principle was the same. Sections were mordanted from one to 12 hours or more in a solution of iron (Benda using a solution of the ferric sulphate and Heidenhain a solution of ferric alum). The sections were then transferred (after washing) to an aqueous solution of hæmatoxylin for an equal period of time, in which the section turned blue or black according to the duration of the two baths, and finally the tissues were decolourised in a weaker solution of the mordant, the differentiation being carried out under the microscope. By either of these methods blue or black preparations of extraordinary intensity and definition could be obtained, but the process of mordanting, staining, and decolourisation was so lengthy and troublesome as to make this process unsuitable for general use. It was with the object of suggesting a simpler method of using this valuable stain that Dr. Paine made this communication rather than with any desire to swell the already too numerous formulæ at their command. In the methods just related the stain was formed in the sections themselves by the combination of the mordant with which they became impregnated in the first bath and the hæmatoxylin in the second bath. Moreover, an excess of stain was developed over and above what was necessary to stain the tissues, so that it was necessary to decolourise the section. It occurred to Dr. Paine that if it were possible to obtain this compound of iron and hæmatoxylin in solution the previous mordanting and subsequent decolourisation might be dispensed with. Such a solution he had been able to make by the addition of a weak solution of the perchloride of iron—1 in 1000 of the B.P. liquor ferri perchloridi fortior being a very convenient form—to a 5 per cent. alcoholic solution of hæmatoxylin made by dissolving the pure crystal obtained from Grubler and Co. in absolute alcohol, and if these two reagents were mixed in certain definite proportions the mixture contained the hæmatoxylin of iron in the form of a lake. The action of the stain was conditioned by the amount of hæmatoxylin present in the solution, which was not difficult to regulate. If only sufficient hæmatoxylin was added to form a brownish-black solution the stain did not act at all or only slowly and was then purely chromatic, staining the nuclei black. If sufficient hæmatoxylin was added to form a blue solution, the stain would be plasmatic as well as chromatic, the nuclei staining black and the cytoplasm various shades of grey, so that no counter stain was necessary, the striation of muscle fibres being exceedingly well shown. And lastly, if too much hæmatoxylin had been added, the hæmatoxylin asserted its action over the lake and the cytoplasm was stained black. Dr. Paine found that from five to ten drops of the 5 per cent. alcoholic solution of hæmatoxylin added to 10 cubic centimetres of the 1 in 1000 solution of ferric perchloride, shaken up until the mixture remained blue, would stain sections in from five to ten minutes, the action being watched from time to time under the microscope. The sections were then washed for ten minutes in distilled water, dehydrated with spirit, cleared with xylol, and mounted in balsam. The stain could be used after alcohol, mercury, or bichromate fixation; the best results followed fixation in 3 per cent. potassium bichromate + 5 per cent. glacial acetic acid added at the time of using. The results given by this stain in Dr. Paine's hands were equal to those obtained by Heidenhain's and Benda's processes. The sections were very clear, free from amorphous deposits, and were certainly superior in the fact that the red cells were not stained black. The method was also free from objections that might be raised against all decolourising processes and had the advantage of being simple, the stain readily prepared, and rapid in its action, giving black preparations that would remain sharply defined under the highest magnifications. Moreover, they were much less trying to work with than the coloured dyes and would if washed in distilled water after staining remain permanent. Sections were shown demonstrating the action of the stain.

OBSTETRICAL SOCIETY OF LONDON.

Unruptured Tubal Pregnancy.—Exhibition of Specimens.—Election of Officers.

A MEETING of this society was held on Feb. 3rd, Dr. EDWARD MALINS, the President, being in the chair.

Mrs. SCHARLIEB, M.D., showed a specimen of Unruptured Tubal Gestation. This was removed from a sextipara, aged 30 years, who was quite well and regular up to July, 1903. At that time, during what appeared to be a normal period, she had an attack of severe pain which lasted for three or four hours. During the next three days the patient felt ill and vomited frequently. From July to October there was constant but not profuse hæmorrhage, unaccompanied by pain. On examination a smooth, globular tumour, of about the size of a billiard ball, was found close to the uterus, but separate from it. Diagnosis lay between a tubal gestation and a small ovarian cyst. The patient underwent operation on Oct. 29th. A spherical dilatation of the inner third of the right Fallopian tube was found. The bladder was adherent to its anterior surface and coils of intestine to the posterior. There was no paratubal hæmorrhage. The specimen consisted of the right Fallopian tube and ovary. The outer two-thirds of the tube were normal with a patent ostium abdominale. A probe could be passed through it down the tube, but did not enter the swelling. The globular portion consisted of the dilated tube which contained blood clot permeated by degenerated chorionic villi. In the centre was a smooth cavity lined by the amnion and containing a perfect embryo of from 24 to 28 days' development. The umbilical vesicle was a prominent object. It was probable that the hæmorrhage occurred when the patient experienced the severe pain in July. No decidua was expelled from the uterus before or after operation.—Dr. C. J. CULLINGWORTH said that the number of cases of tubal gestation operated upon before rupture, though increasing, was still so small that it was most desirable that every case should be placed on record. Mrs. Scharlieb's specimen was very beautifully preserved and mounted. In any circumstances the diagnosis of unruptured tubal pregnancy was attended with much difficulty, but the difficulty was much increased when, as in the present case, the gestation was too early for a history of missed menstruation. In such circumstances a certain diagnosis must be almost impossible. He understood Mrs. Scharlieb to describe an outer peritoneal covering of the affected portion of the tube and beneath that the muscular layer of the tube wall covering a quantity of blood clot with which damaged chorionic villi were irregularly mixed. He wished to ask Mrs. Scharlieb whether there was any evidence of the chorionic villi having invaded the muscular coat and also whether her examination of the specimen could throw any light upon the question as to whether the ovum in tubal gestation was or was not outside the lumen of the tube.—Mr. ALBAN H. G. DORAN believed that as a large number of tubal abortions were known to occur about the second month it was highly probable that a still larger proportion of tubal pregnancies terminated even earlier and without symptoms. Perhaps, however, this was not the case, the tube being competent to bear an ovum until it attained a certain size. Much was known about the early stages of tubal gestation but its clinical features required more study. The discharge of dark blood known to older writers but not accurately interpreted by them had been correctly indicated as a cardinal symptom by Dr. Cullingworth. Pain associated with a pelvic swelling and disturbance of the catamenia was sometimes absent, but hæmorrhages were probably never absent.

Dr. G. F. BLACKER showed an interesting specimen of Deciduoma Malignum and Dr. BRIGGS one of Primary Carcinoma of the Fallopian Tube.—The latter specimen was discussed by Mr. ALBAN DORAN and Dr. HEYWOOD SMITH.

After the reports of the treasurer, the honorary librarian, and the chairman of the board for the examination of midwives had been read and adopted, the PRESIDENT delivered the annual address.—Dr. Pozzi and Sir John Williams were elected honorary Fellows of the society.—The following list of officers and council for the ensuing year was announced and the proceedings closed with votes of thanks to the retiring officers and members of council. President: Dr. Malins. Vice-Presidents: Dr. A. H. Freeland Barbour, Dr. Amand J. M. Routh, Dr. William Japp Sinclair, and Dr. Herbert R. Spencer. Treasurer: Dr. George Ernest Herman. Chairman of the board for the examination of midwives: Dr. W. R. Dakin. Editor of the "Transactions": Dr. Spencer. Honorary secretaries: Dr. Montagu Handfield-Jones and Dr. Robert Boxall. Honorary librarian: Dr. Arthur H. N. Lewers. Other members of council: Dr. Sydney Beauchamp, Mr. John M. Biggs, Mr. Albert Charles Butler-Smythe, Professor Murdoch Cameron, Dr. Cullingworth, Mr. Ernest

Rumley Dawson, Mr. John Henry Ewart, Mr. John Shields Fairbairn, Mr. Charles Arthur Goullet, Dr. David Berry Hart, Dr. Arthur Corrie Keep, Dr. Arnold W. W. Lea, Dr. Cuthbert Lockyer, Dr. William Rivers Pollock, Dr. Harry Campbell Pope, Mr. Edward Reynolds Ray, Dr. Walter C. Swayne, and Mr. Charles J. Wright.

LIVERPOOL MEDICAL INSTITUTION.

Hot-air Cautery.—Poisoning by Antimony and Lead.—Intravesical Separation of the Urine.—Puerperal Septicæmia.

A MEETING of this society was held on Feb. 4th, Dr. JAMES BARR, the President, being in the chair.

Dr. K. A. GROSSMANN gave a short account of the Hot-air Cautery introduced into surgery by Dr. Hollander of Berlin and showed a modification of the instrument adapted for ophthalmic surgery. He said that he had employed it with most satisfactory results in angioma of the eyelid, in corneal ulcers, and similar affections. He considered it particularly valuable in cases of conical cornea. The different degrees of heat could be easily regulated and he had found the results superior to those obtained by the actual cautery.

Dr. LESLIE ROBERTS exhibited a patient, a compositor by occupation, suffering from Chronic Poisoning by Antimony and Lead. The symptoms complained of were sweating, tenderness of the palms of the hands and soles of the feet, and pains in the muscles of the arms and back. The patient had been forced to give up work on account of the tenderness of the fingers. The palms were of a pinkish-red colour and drenched with perspiration. Scattered all over the palms were small, flat, smooth papules. Microscopic examination of the skin showed the rete to be hypertrophied, the sweat ducts to be much dilated, and the capillaries to be congested. The condition of the palms was not to be distinguished from that seen in some forms of arsenical poisoning. The linotype alloy was composed of tin, antimony, and lead. The patient's urine was free from albumin but contained lead, to which metal the tremors and muscular weakness might be attributed. He had not suffered from colic. The plumbism seemed to have been modified by the presence of antimony.

Mr. ROBERT BICKERSTETH read a note on the Intravesical Separation of the Urine coming from the Right and Left Ureters as an Aid to Diagnosis in Surgical Diseases of the Kidneys. After contrasting the older methods with the only alternative—namely, catheterisation of the ureters—he showed the "separator" introduced by Dr. George Luys of Paris. He said that he had used this instrument for the last six months and he described cases and showed specimens of separated right and left urines which proved the method to be of the greatest utility. During the examination it was neither necessary nor advisable to administer a general anæsthetic, for after the introduction of the instrument the patient should be placed in the sitting posture.—Mr. F. T. PAUL related several cases under his care in which Mr. Bickersteth had by means of the "separator" furnished him with most valuable information.—Mr. K. W. MONSARRAT had been greatly impressed with the value of the instrument in a case under his care that Mr. Bickersteth had examined.

Dr. NATHAN RAW read a paper on the Pathology, Bacteriology, and Treatment of Puerperal Septicæmia with special reference to the value of antistreptococcic serum, based on an observation of 61 cases in the Mill-road Infirmary, Liverpool. He said that the disease in no way differed either in origin or in symptoms from several other infective and septic processes and was not peculiar to the lying-in state. The micro-organisms found in his series were as follows: streptococcus pyogenes in 27 cases; staphylococcus aureus in six cases; mixed infections in 13 cases; bacillus coli communis in 11 cases; and the diphtheria bacillus in one case. In three cases there was no growth of organisms. Before using antistreptococcic serum it was essential to demonstrate beyond doubt that the infection was streptococcic. This could readily be done by staining a little of the secretion from the uterus. In advanced cases the blood might be used for this purpose but it was difficult to recover streptococci from the blood unless it was taken from a vein in large quantity, say, five cubic centimetres, and then they were not always found. His experience went to show that the serum was of the greatest possible value in pure streptococcic infections if employed early in the disease. The dose he employed was 20 cubic centimetres twice or thrice daily and continued for several days. He had never known any harm or bad symptom to arise from its use if obtained from a trustworthy manufacturer and with a bacteriological guarantee of its purity. In the total number of 61 cases under observation there were 32 recoveries and 29 deaths, giving a death-rate of 48 per cent. The patients treated with serum were 37 in number with 24 recoveries and 13 deaths, giving a death-rate of 36 per cent. The number treated without serum was 24 with eight recoveries and 16 deaths, giving a death-rate of 60 per cent. Several of the patients in the last group were admitted to hospital in an advanced stage of the disease when obviously no treatment would be of avail.—Dr. J. E. GEMMELL said that the presence of streptococci in the lochial discharges was not sufficient indication for the use of the serum, for it was known that examinations of normal vaginal discharges and of lochial discharges during a normal puerperium had yielded streptococci.—Dr. HENRY BRIGGS said that he had frequently used the serum but had grave doubts as to its real utility.—Dr. LLEWELLYN A. MORGAN, Dr. E. T. DAVIES, Dr. T. B. GRIMSDALE, Dr. F. B. O'FLAHERTY, and Dr. A. S. F. GRÜNBAUM also took part in the discussion.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Glycogen in the Blood.—General Streptothrix Infection.—Glaucoma.

A MEETING of this society was held on Feb. 3rd, Professor JOHN CHIENE, the President, being in the chair.

Dr. LOVELL GULLAND read a paper on the Glycogen Reaction in the Blood. He described the nature of the glycogen reaction and the method of applying it by staining the granules with iodine. He discussed the conditions under which glycogen was present in the blood, its pathological relationships, and its connexion with leucocytosis.

Dr. STUART MCDONALD read a paper on a case of General Streptothrix Infection. The patient, who was a woman, died in the Royal Infirmary about 18 months ago. She exhibited some obscure nervous symptoms on admission though she had been ailing for some months from cough and there had been a more recent acute illness of some five weeks' duration with definite pleurisy. It was impossible to get a proper history from her or to make a complete physical examination; she gradually became comatose and died two days after admission. At the post-mortem examination numerous small abscesses were found in the brain and kidneys; there were inflammatory deposits in the heart wall but the most striking lesions were found in the lungs which exhibited a condition somewhat resembling a miliary tuberculosis, though the lesions had a more pyæmic character. A typical streptothrix was found in all the lesions and pure cultures were obtained from the kidney. These cultures had been kept alive ever since and the organism studied on various media. It appeared to be either identical with Eppager's streptothrix or closely related to it. The cultures were found to be definitely pathogenic for rabbits and guinea-pigs, though rats and mice were apparently immune. An interesting point was the appearance in old cultures of short bacillary forms which were acid fast and alcohol fast after being stained with Ziehl-Neelsen's carbol fuchsin and which in some cases strongly resembled tubercle bacilli.

Dr. J. V. PATERSON read a paper on Glaucoma and the Glaucoma Theories. He described the anatomy of the parts of the eye connected with the secretion and elimination of the aqueous humour and the experimental work and methods recently employed to determine the source of the aqueous, the normal rate of secretion, and the paths by which fluid leaves the eye. Leber's conclusions as to the rate of flow during life were given, as were also the questions of the outflow by way of the nerve, of the permeability of the hyaloid, and of the kind of communication existing between the anterior chamber and the veins. In the monkey's eye (freshly enucleated) Dr. Paterson had found that Chinese ink injected into the anterior chamber penetrated freely into the tissue of the iris as well as into the canal of Schlemm and the veins at the filtration angle. For estimating the amount of flow through the eyeball under different conditions he had employed an apparatus somewhat modified from that used by Priestley Smith, the graduated tube carrying the air-bubble being of finer calibre so that the readings

could be taken every minute. The question of intra-ocular tension was then discussed and its relation to the blood pressure, arterial and venous, was considered. Secondary glaucoma was usually due to mechanical causes obstructing the flow of aqueous humour. Cases to illustrate this were described—e.g., iris bombé, iris prolapse, traumatic cataract, cyclitis, and intraocular tumours. Primary glaucoma was much more difficult to explain and eyes were removed only in the later stages of the disease when it was difficult to determine the priority and importance of the lesions found. The lesions associated with advanced glaucoma, on which most stress had been laid, were: (1) cupping of the disc with accompanying optic atrophy; (2) closure of the filtration angle; and (3) changes in the intraocular blood-vessels. Dr. Paterson discussed the theories of von Graefe, Knies, Birnbacher, Fuchs, Abadie, and Panas to explain the occurrence of glaucoma. Although no adequate explanation of primary glaucoma had yet been offered he was inclined to think that a theory of retention with blocking of the filtration angle was the one which best explained the acuter forms of the disease. The more chronic forms of glaucoma probably depended on local and general vascular changes which might influence the blood pressure and the intraocular secretion. Priestley Smith's theory was also criticised and Dr. Paterson said that he had never seen any pathological evidence that the circumlental space had been blocked in any of the series of glaucomatous eyes which he had examined.—Dr. BERRY and Dr. GEORGE MACKAY discussed the paper.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

Pelvic Fascia.—Pawlow's Gastric Fistula.—Blood Films

A MEETING of this section was held on Jan. 29th, Dr. E. H. TAYLOR, the President, being in the chair.

Dr. R. ATKINSON STONEY read a paper on the Anatomy of the Pelvic Fascia, with special reference to its surgical importance. He described a new method of demonstrating the connexions of the visceral pelvic fascia by hardening the subject in formalin and then having made a mesial section of the pelvis the prostate and bladder were dissected out of their fascial envelopes. By means of specimens dissected in this way and drawings and diagrams made from them he showed that the visceral layer of pelvic fascia, instead of dividing into three layers as usually described, really gave off three complete sheaths, two in a downward direction surrounding the prostate and rectum and one in an upward direction surrounding the bladder, and that each of these was complete in itself and in no place did one layer of fascia enter into the formation of more than one of these three sheaths. He also pointed out that the visceral layer of pelvic fascia met the urogenital apparatus at the vesico-prostatic junction and the alimentary canal at the junction of the rectum and anal canal.—Sir THOMAS MYLES, the PRESIDENT, Professor ALEXANDER FRASER, and Professor A. F. DIXON took part in the discussion.

Dr. HAROLD PRINGLE exhibited a dog on which he had performed Pawlow's Gastric Fistula Operation. The object of the operation was to produce a stomach pouch which was made to open on the surface, while the remainder of the stomach was left to perform its digestive function as usual. The pouch was formed in such a manner as to retain its nervous connexions intact. Some lantern slides were shown giving the results of experiments which proved that the juice secreted by the stomach pouch varied in amount and rate of secretion, corresponding with the results already published by Pawlow.

Dr. HENRY M. JOHNSTON gave a demonstration on the making of Blood Films by a new method, the apparatus for which was very simple. He also showed specimens of films stained and unstained.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on Jan. 15th, Dr. J. Porter Parkinson being in the chair.—Dr. G. E. C. Pritchard showed a case of Transposition of the Viscera in a girl, aged 12 years, the heart, the liver, the stomach, and the spleen being transposed. The child had been delicate since birth and at one time had been treated for enlargement of the spleen owing to the liver having been mistaken for that organ. She was also deficient mentally and it was intended to have a skiagram taken for the purpose of seeing whether the aortic arch was on the right side.—Dr. Pritchard also showed a case of Congenital Absence of the Left Arm in a girl, aged 15 years. The stump ended about two inches below the elbow in a small excrescence which presented the appearance of a rudimentary thumb provided with a nail.—Dr. C. O. Hawthorne said that he had seen at least two such cases in which there were processes that might be called digits.—Mr. A. H. Tubby showed a case of Sarcoma with Secondary Deposits in a boy aged two and three-quarter years. Seven weeks previously the child received a knock on the left leg and soon afterwards the mother noticed a swelling there which was poulticed. Three weeks ago he was again struck on the same leg and also fell striking his head. A swelling on the head formed soon afterwards. He now presented a definite tumour over the left leg attached to the fibula and a smaller tumour over the right parietal bone. The left inguinal and iliac glands formed a large adherent mass but were not tender. Mr. Tubby commented on the direct connexion of the growths with an injury. In a paper published in THE LANCET some years ago he pointed out the direct relation of traumatism to sarcoma of bone and he thought that this was now generally accepted. Owing to the implication of the glands he did not consider that any operative treatment was available.—Mr. Tubby also showed a case of Congenital Dislocation of the Fifth Cervical Vertebra in an infant, aged three months. The deformity was noticed the day after birth, the confinement having been a normal one. No symptoms had been observed until the previous week when vomiting came on and had occurred several times a day. At the base of the neck there was a sharp bony prominence which corresponded to the fifth cervical vertebra. The summit of this process was formed by the left articular process and the spinous process could be felt to the right of it and not so prominent. There was also congenital scoliosis, the curve being to the right in the dorsal region and to the left in the lumbar. There were no evidences of paralysis. Mr. Tubby proposed to make an attempt to reduce the dislocation by traction and manipulation but thought that as three months had elapsed the prospect of cure was not good.—Mr. J. Howell Evans suggested that there was an absence of half the fourth cervical vertebra and that the marked prominence felt to the left of the middle line was the superior articular portion of the lamina of the fifth cervical vertebra, which was unopposed. The small projection which could be felt almost in the middle line corresponded to the spinous process of the same vertebra. The scoliosis would be the result of the defective vertebra.—Mr. Howell Evans read a paper on the Relation of certain Extracranial and Intracranial Hæmorrhages in the Newly Born. He considered that these hæmorrhages were dependent partly on an irregularity in the moulding of the fœtal head, this irregularity arising from the presence of accessory sutures in the situations where certain extracranial vessels anastomose with the intracranial vessels; another factor was probably the rise of blood pressure which occurred during the reactionary period when the child was recovering from the birth trauma. These hæmorrhages occurred in non-instrumental labours and as frequently in breech as in vertex presentations, and with approximately the same frequency as the accessory sutures referred to. Selecting the parietal bones as examples he said that when a parietal bone was developed from two centres of ossification there was left a small space extending from the situation of the parietal foramen to the sagittal suture. At the parietal foramen the occipital artery communicated with the middle meningeal artery and the occipital vein directly or indirectly with the superior longitudinal sinus. In a normal fœtal skull these vessels were secure from injury, but when the accessory sutures were present irregular moulding occurred at them and the vessels were lacerated.—Dr. G. A. Sutherland said that cases described as birth palsies were met with in which the labour was normal, neither too prolonged nor too rapid, and it was difficult to understand how such cases were explained by the ordinary pressure theory.—Dr. Hawthorne said that intracranial hæmorrhages occurred in cases which had not been subjected to any undue pressure and even in infants born at the seventh month.—Dr. W. C. Chaffey (Brighton) read a paper on the sequel of a case of Extreme Wasting which had been shown at a meeting of the society in July,

1903. The patient was a boy, aged ten years, who was extremely wasted, refused all solid food, but drank two and a half pints of milk daily and presented no objective signs of cerebral disease. The case had been regarded by most of the members as one of hysteria. In October he developed bed-sores, had attacks of headache with screaming, and tonic contractions appeared in the extremities. These and other symptoms led to a diagnosis of tumor cerebri or meningitis. At the necropsy there was found to be chronic meningitis, chronic hydrocephalus, and an endothelial tumour of about the size of a walnut attached lightly to the posterior aspect of the right optic thalamus. Dr. Chaffey commented on the rarity of endothelioma as a cerebral tumour. He thought that the growth of the endothelioma might have been excited by an injury sustained by the boy in the school playground some twelve months before his death.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at the Medical Institute, Birmingham, on Feb. 3rd, the chair being taken by Dr. R. Saundby.—Mr. W. Billington showed a case of recovery after operation for Cerebral Abscess following upon prolonged otitis media. The patient was a man, aged 27 years, who for many years had had a chronic purulent discharge from both ears. Three weeks before operation he began to suffer from pains in the head. He then had a "fit" while at work, became drowsy and stupid, and presented evidences of intracranial pressure. These increased and at the time of operation the patient was deeply comatose with Cheyne-Stokes respiration. The skull was trephined without anæsthesia and a large abscess containing two ounces of fœtid pus was discovered in the left temporo-sphenoidal lobe. This was opened and drained. A week later Stacke's operation was performed on the left side. The patient made an uneventful recovery and two months later he was quite well and back at work. His hearing was distinctly good, a watch being heard at a distance of six inches from the left ear, and he suffered from no mental or physical disablement.—Mr. George Heaton showed a man who had recovered after complete suppression of urine from impacted calculi for a period of eight and a half days. He was 40 years of age and had had occasional attacks of obscure lumbar pain for 15 years. Three months previously he had a severe attack of renal colic with hæmaturia. This was followed by the passage of 20 small calculi. Urinary suppression took place quite suddenly four days before his admission to hospital. It was ushered in with severe abdominal pain which soon passed off. During eight and a half days while he was under observation absolutely no urine was passed or was found in his bladder. Throughout this period he showed no uræmic symptoms whatever until the seventh day, when he began to suffer from muscular tremors and became slightly delirious. There was no vomiting or perspiration or pain and there was no loss of consciousness. An exploratory operation was performed in the left loin but owing to the patient's great size the kidney could only just be reached with great difficulty and appeared to be atrophied. On the ninth day the urinary flow suddenly returned. He passed during the next ten days a very large quantity of urine—173, 178, 136, and 126 ounces being passed on successive days. The urine was pale and clear and the specific gravity was 1008; it contained only a trace of albumin. A few weeks afterwards he passed three small calculi. At the present time he was back at work and was in his usual health. Mr. Heaton was disposed to think that the left kidney—the one explored—had been rendered functionless by old disease and that the obstruction had now taken place in the right ureter or pelvis of the right kidney. The man was enormously stout and it was quite impossible to feel any tumour through the parietes.—Dr. W. D. Lawrie showed a case of Paralysis of both Lower Extremities in a boy due to Acute Anterior Poliomyelitis. The point of interest connected with this case was the ingenious method the patient had of interlocking his legs and moving about with a swinging motion supported on his hands. He could in this way mount and descend from a chair.—Dr. J. D. Stanley showed (for Dr. S. H. Perry) a case of Favus in a boy eight years of age. The disease had been present for six years. It was pointed out that favus is rare in Birmingham. Dr. Perry had made careful microscopic examination of the parasite.—Dr. O. J. Kauffmann read a paper on an interesting series of cases of Cerebral Degeneration in Children. He pointed out the relationship between diseases such as Friedreich's ataxia, cerebellar ataxia, and Little's disease.

SOCIETY OF ANÆSTHETISTS.—A clinical meeting of this society was held on Feb. 5th, Mr. C. Carter Braine, the President, being in the chair.—The President read notes of a case of so-called Waterlogging of the Lung ending fatally. He said that the condition was barely mentioned in text-books on anæsthetics and was generally due to the injudicious administration of ether when there were obvious signs that a mixture or chloroform should be substituted. The causes were (1) inhalation of fluid vomit; (2) inability to get rid of bronchial secretion; and (3) a combination of these two causes. Washing out the stomach was not a trustworthy remedy for the first cause as regurgitation still continued. "Waterlogging" of the lung occurred in feeble people of advanced age who had bronchitis and emphysema and was slow in its onset; the term should be confined to those cases in which there was inability to get rid of bronchial secretion. The case reported was that of a very fat old lady of the type just mentioned who had suffered from intestinal obstruction for three days. She was dusky in colour and had lately been drinking champagne. Owing to the danger from vomiting chloroform was administered and the operation performed while the patient lay in the lateral posture. Free vomiting and oozing of liquid occurred during the first 30 minutes but gave rise to no anxiety. The reflexes were never abolished. Then the helix of the ear became very blue, the pulse feeble, the respiration wheezy, cyanosis increased, and the patient gradually died. The chest appeared "waterlogged," as no air could be driven in or out of the lungs by artificial respiration. There was no post-mortem examination but the President's opinion was that death was due to the choking of the tubes by gradual accumulation of bronchitic secretions and not to inhaled vomit, which always escaped freely.—The Junior Secretary read for Dr. T. D. Luke of Edinburgh notes of a case of Great Danger during the Administration of Nitrous Oxide for the Extraction of a Single Tooth. The patient, a big, powerful man, became cyanosed, then vomited, and suddenly stopped breathing, becoming almost black. Tongue traction and artificial respiration were fortunately followed by recovery which was accompanied by great excitement. The patient, it was afterwards found, had recently had a meal, had been drinking port wine, had taken three-quarters of a grain of morphine at night for ten days, and the day previously had been "sniffing" chloroform. Altogether he was an eccentric character. The reason of the vomiting was not obvious. Would the patient have taken ethyl chloride better?—Dr. W. J. McCardie recorded a Death under Nitrous Oxide given for extraction of teeth in a man suffering from marked enlargement of the glands on both sides of the neck. The patient did not suffer from dyspnœa. After the administration of a small quantity of gas mixed with some air he stopped breathing and at once died without any apparent cause. Post mortem both sides of the neck were full of enlarged and malignant glands, apparently secondary to malignant disease of the thyroid gland. The trachea was rather narrowed but not enough to cause an obstruction to breathing. No special cause of respiratory or heart failure was found.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Mr. E. S. Robinson being in the chair.—Mr. J. Lionel Stretton showed the following specimens: 1. A large mass of Epithelioma growing from the Conjunctiva, firmly adherent to the globe of the eye, removed from an old man, aged 78 years. 2. A portion of the Skull removed by a Trephine from a boy, aged 14 years, containing a central hole which was part of a sinus leading down to the hypertrophied dura mater. He had suffered from middle-ear disease as a result of scarlet fever three years previously. The sinus was situated at a point one and a half inches behind a line drawn vertically through the external auditory meatus and one and a half inches above a line drawn horizontally through it. There was no history of any injury and it seemed difficult to account for the condition. The most probable explanation appeared to be that a subdural abscess had discharged through the bone, which must be an unusual occurrence. There had been no discharge since the operation and the wound was granulating up.—Mr. Stretton also read notes of cases of three females upon whom he had operated for Appendicitis within ten days. All made an uneventful recovery.—Mr. Stretton also showed a woman, aged 28 years, from whom he had removed a large Multilocular Ovarian Cyst. She was admitted to hospital

with acute abdominal pain and vomiting and it was at first thought to be a case of twisted pedicle. No twist, however, was discovered. The cyst weighed 27 ounces and contained about three pints of fluid. In spite of a sharp attack of broncho-pneumonia she made a satisfactory recovery.—Mr. Stretton also showed a man, aged 83 years, upon whom he had operated for Enlarged Prostate. The gland, which was exhibited, weighed three and a half ounces and was removed by the suprapubic route.—Mr. Stretton also exhibited various Specimens.—Dr. B. Addenbrooke showed a case of Exophthalmic Goitre in a boy, aged 14 years, and an Ovarian Cyst which he had removed.—Mr. W. Moore showed a specimen of a Horseshoe Kidney, the two kidneys being united and lying across the vertebral column.—Mr. Robinson showed a Fœtus with large Teratoma projecting from its mouth and being attached to the upper jaw.—Dr. O. C. P. Evans showed (1) a Brain with Abscess in the Right Temporo-sphenoidal Lobe resulting from middle-ear disease following scarlet fever; and (2) Sequestra removed from the Femur.—Dr. Evans also read notes of a case of Appendicitis in which abdominal obstruction, due to a band of lymph, came on after the operation, necessitating a further operation. The patient made a good recovery.—Dr. James Brocket showed a very good specimen of Fatty Heart removed from a woman, aged 65 years, who had committed suicide by cutting her throat.—Mr. Stretton read a paper on Professional Mistakes.—Many of the members present related their experiences.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 3rd, Dr. Judson S. Bury, the President, being in the chair.—Mr. A. H. Burgess presented a communication on the Treatment of Rectal Prolapse and Incontinence of Fæces by the Submucous Injection of Paraffin, based on an experience of nine cases of prolapse, one case of prolapse combined with incontinence of fæces, and one case of incontinence resulting from operations for the cure of an extensive fistula in ano. He used a paraffin melting at 111° F. and a syringe the glass barrel of which was encased in rubber to retain the heat longer. No special means were taken to keep the needle hot. The technique of his operation was described in detail, the chief aim of which was to introduce the paraffin in successive tiers, each tier consisting of three large nodules placed equidistantly around the circumference of the bowel, the tiers being so arranged that a nodule of one tier was opposite to the interval between two nodules of the tiers above and below it respectively. Usually three tiers were sufficient, but more might be introduced in a very long prolapse. A single stitch was placed to approximate the buttocks over the anus to prevent the prolapse from descending before the paraffin had set, this stitch being removed in 24 hours. The results had been excellent in all the nine cases of prolapse, not a single instance of re-descent having occurred. In the case of prolapse with incontinence of seven years' duration a cure was effected by a combination of paraffin injections with a plastic operation to narrow the enlarged anal orifice. In the case of incontinence after operations for fistula the large amount of 52 cubic centimetres of paraffin was injected on two occasions submucously around the lower part of the rectum, and although the patient had previously been absolutely incontinent for three years he had not soiled his linen once during the eight weeks that had now elapsed since the operation.—Dr. Charles H. Melland gave some clinical details of a series of recurrent cases of Malaria recently met with in Manchester. After describing the principal points upon which a diagnosis of malaria should rest he dilated at greater length upon the value of blood examination in clinching the diagnosis. He then demonstrated, with Dr. Orr, a series of coloured lantern slides of microphotographs of Malarial Plasmodia taken from the cases referred to above illustrating the asexual life history of the different species of plasmodia as studied in stained blood films.—Dr. W. J. S. Bythell gave a demonstration of the Sangers-Shepherd process of Colour Photography as applied to medicine.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Feb 3rd, Dr. J. Nigel Stark, the President, being in the chair.—Dr. J. M. Munro Kerr showed: (1) A large Myomatous Uterus removed by supravaginal hysterectomy; and (2) an Ectopic Sac containing a Fœtus of about three months.—Dr. Samuel Sloan read a note on three cases of Cancer treated by the X Rays. The first was a case of Vaginal Cancer. Bleeding ceased and pain was diminished but the size of the growth was not influenced. The second was a case of Cancer of the Right Breast with destruction of the Breast Tissue and Involvement of the Axillary Glands. Under the influence of the x rays the ulcerated surface healed over but the malignant tissue in the breast and the axillary glands remained as before treatment. When treatment was stopped ulceration began again. The third was a case of Cancer of the Cæcum. Three applications were made and each was followed by great pain.—Dr. A. Louise McIlroy read a paper on Some Pathological Conditions of the Fallopian Tubes, grouping illustrative cases into (1) hydrosalpinx, (2) hæmatosalpinx, and (3) tubal gestation. As instances of hæmatosalpinx Dr. McIlroy showed two tubes from the same patient. There was no evidence of pregnancy in either of them. The uterus was myomatous. The hæmorrhagic condition was believed to be the result of pressure from the enlarged uterus. In illustration of tubal gestation the following cases were shown: (1) incomplete tubal abortion with hæmatocele; (2) incomplete tubal abortion where the non-pregnant tube of the opposite side was distended with blood; (3) a tube inclosing fœtus, where rupture had taken place into the broad ligament; and (4) a specimen of an unruptured tubal pregnancy.

ROYAL MEDICAL SOCIETY OF EDINBURGH.—A meeting of this society was held on Jan. 29th, Dr. T. B. Hamilton being in the chair.—Dr. R. J. A. Berry gave an address, illustrated by photographs, lantern slides, and diagrams, on the Anatomical Relationships of Two Double Monsters. In both cases the twins were united laterally, the union in the first case involving the abdomen and in the second both the abdomen and the thorax. The intestinal canals were found to unite in the duodenum and jejunum only and there was in each case a single liver. The heart in the second case was also a single structure but possessed four ventricles and two auricles. To one of the auricles three auricular appendages were attached, the other auricle having one. The auricles communicated by a well-marked foramen ovale and the interventricular septum on one side was absent. The primitive fault in this part of the monster was due to incomplete separation of the sinus venosus. From the various abnormalities observed Dr. Berry drew the important conclusions that the liver was not a fore gut but a mid gut development and that bilateral segmentation of a single ovum was unnecessary for the production of twins.—A Dissertation on the Relation of the Lower Animals to Disease in Man by Dr. J. A. Meikle was read in his absence by Mr. L. S. Milne.—Dr. B. P. Watson read notes of a case of Ectopic Gestation which presented all the classical symptoms. On the morning of operation a decidual cast of the uterus was passed. Dr. Watson showed this cast together with the specimen removed at the operation. In this specimen the amniotic cavity was visible in the centre of the mass of blood clot.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on Feb. 1st. Dr. Thomas Barr, the President, being in the chair.—The President delivered the introductory address in which he reviewed the work of last session. He remarked that a very large proportion of the communications had dealt with suppurative diseases of the ear and their complications and suggested that the society might devote a part of its time to a study of chronic non-suppurative diseases which did not endanger life but made it almost unbearable. It would be of great advantage to otologists to have authoritative guidance as to the comparative utility of the various methods of treatment in vogue.—Mr. C. H. Fagge exhibited specimens of Atresia Auris Congenita taken from a stillborn child showing bilateral absence of membrana tympani, ossicles, osseous meatus, and mastoid antrum.—Dr. William Milligan read a paper on the Etiology and Treatment of Suppuration of the Labyrinth which appears in full at p. 416 of our present issue. The discussion on the paper was adjourned to the next meeting.—Mr. Hunter F. Tod showed a specimen of Sarcoma of the External Meatus removed from a woman aged 67 years.—Mr. Hugh E. Jones showed a Portable Surgical Hand Motor.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Jan. 27th, Dr. J. H. Stowers, the President, being in the chair.—The following cases were shown:—Dr. E. G. Graham Little: A case of Scrofulodermia on the Buttocks of an Infant.—

Mr. T. J. P. Hartigan: A series of cases which were being treated by Radium—viz., three cases of Rodent Ulcer, four cases of Lupus, and one case of Facial Nævus.—Mr. Spencer Hurlbutt: A case of Lichen Planus.—Mr. George Pernet: A case of Lupus Erythematosus.—Dr. V. H. Rutherford: (1) A case of Polymorphous Syphilodermata; (2) a case of (?) Lichen Planus, (?) Syphilis; and (3) Perforating Ulcers of the Feet in a man suffering from locomotor ataxia with a history of syphilis 20 years ago.—Mr. A. Shillitoe: (1) A case of Iodism; and (2) a General Papular Syphilide.—The President: (1) Molluscum Contagiosum; (2) a child with Universal Alopecia; and (3) a water colour drawing of a case of Pellosis Rheumatica.—Dr. C. H. Thompson: A case of Hypertrophy of the Sebaceous Glands.

ABERDEEN UNIVERSITY MEDICAL SOCIETY.—A meeting of this society was held on Jan. 29th, Mr. James Clark being in the chair.—Mr. W. E. Reid read a short paper on Homœopathy. He instanced the use of aconite in milder febrile conditions as being the most outstanding example of drugs first used by homœopathists. Many drugs now in use were originally prescribed by them. Comparative statistics dealing with epidemics showed a lower rate of mortality for homœopathic treatment which was in widespread use in America and supported in this country by a good many of the medical profession. The paper was productive of much criticism.—Mr. R. H. Spittal followed with a paper on Occupational Diseases.

Reviews and Notices of Books.

A System of Physiologic Therapeutics. Edited by SOLOMAN SOLIS COHEN, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to Jefferson Medical College Hospital, to the Philadelphia Hospital, and to the Rush Hospital for Consumption. Vol. X., Pneumotherapy, including Aerotherapy and Inhalation Methods and Therapy. By Dr. PAUL LOUIS TISSIER. Assistant Consulting Physician to Laennec and Lariboisière Hospitals, Chief of Clinic in the Faculty of Medicine of the University of Paris. Illustrated. London: Rebman, Limited. 1903. Pp. 479. Price 12*s.* 6*d.*

As many of our readers are aware this "System" is intended to present a "practical exposition of the methods, other than drug giving, useful for the prevention of disease and in the treatment of the sick." In its broad outlines the present volume follows the general plan of its predecessors but some important differences will be found in matters of detail. Considering the subjects which are now being dealt with we commend the editor and Dr. Tissier for this departure.

The history of the development of pneumotherapy and of its various methods receives a large amount of attention and supplies some instructive reading. Aerotherapy for many years suffered from the lack of persistent advocates and can hardly be said to have been appreciated at its true worth until the prominent position which has during the past few years been taken by the "open-air" treatment of tuberculosis aroused fresh interest in this branch of medical science.

The conclusions arrived at by the various observers who have investigated the physiological and pathogenic effects of condensed air and rarefied air, whether experienced by workers in caissons, by aeronauts in balloon ascents, or by mountain climbers, have not been entirely concordant. The therapeutical effects of artificially condensed and rarefied air have also given rise to markedly divergent opinions. Dr. Tissier sets forth the views of the various authorities in an able manner but the reader is not left in doubt amid a multitude of conflicting assertions and antagonistic recommendations as is so frequently the case when controversial matters are being dealt with. In many instances Dr. Tissier has succeeded in reconciling observations, apparently contradictory, by pointing out the diverse conditions under which they were made and suggesting the necessary corrections in the results.

Another particular in which the present volume differs from its companions is the attention given in Part II.—on Inhalation Methods—to certain aspects of pharmacology. This constitutes a departure from the strict title of the book but an advocacy of physiological therapeutics is not intended by the editor (Dr. Cohen) to disparage discriminating pharmacology; both are needed but the former has been too much neglected and deserves more recognition than has hitherto been given to it, hence the aim and origin of this series of treatises. The chapter on the Physiological and Pathological Effects of Compressed Air is an interesting one and the remarks on the therapeutic value of the pneumatic chamber are well worthy of notice. The use of compressed air has been found to be of considerable value in the relief of respiratory affections such as asthma and emphysema but it must be acknowledged that the treatment has not been largely adopted in this country, probably because there is only a very limited number of health resorts at which the requisite appliances are provided.

A full description is given of the various inhalation methods employed, more particularly in affections of the throat and nose.

This volume has an excellent index and the work will be found very serviceable for purposes of reference.

The Direction of Hair in Animals and Man. By WALTER KIDD, M.D., F.Z.S. London: A. and C. Black. 1904. 8vo, pp. viii–154.

THAT the direction of the hair slope in mammals varies much is a fact well known to zoologists; but we are not acquainted with any general work, such as the present, in which the facts are put together within one cover. The author has therefore in any case accomplished a piece of work which supplies a definite want in the literature of zoology. The usefulness of this general summary is furthermore enhanced by numerous clear figures which show at a glance the essential facts. The aim of Dr. Kidd is, however, more ambitious than that of merely summarising the arrangement of the various hair "currents" to be found among the mammalia, including man. He attempts, and often with considerable ingenuity, to interpret the variations in accordance with habit of life and he thus arrives, if we are to accept his readings of fact, at the important conclusion that acquired characters *are* inherited. Man offers an especially excellent example whereon to test such views. For we are better acquainted with the habits of existing man than with those of any other animal. We can thus test known concurrence of structure and habit in man with more doubtful concurrences in less known animals. This correlation may be illustrated by a few examples selected from Dr. Kidd's pages. He states, and shows in a diagram, that the hair slope in the dorsal region about the shoulder is upward in man, whereas it is downward in anthropoid apes. Now, as is justly pointed out, a very large proportion of the life of man is passed in slumber with the head more or less raised upon a pillow. This would plainly tend to produce an upward lie of the hair, since there is "a tendency of the body to slide downwards off the pillow." The author goes on to say that "in certain hairy subjects who have suffered a good deal from illness, necessitating much of the recumbent position, I have seen greatly exaggerated upward sloping of the hair on the dorsal region. I would submit that the mechanics required for the production of a very unexpected slope of hair are here ready to hand."

The lie of the hair on the head is clearly affected by the mode of parting the hair. The author has collected statistics to the extent of 100 persons and has discovered that "13

of these parted their hair on the right side, nine in the centre, and 78 on the left side." Now in the apes the hair upon the scalp has a uniform backward direction, though many of them, for instance, the bonnet monkey, have an obvious parting in the middle line. It follows therefore that if the trend of the hair were purely a matter of inheritance from apes, uninfluenced by later acquired and then inherited differentiations, the hair of the young would be more ape-like in its regularity than actual observations show it to be. While in numerous children the smooth and regular lie of the hair is to be found, others show distinct traces of formerly acquired partings; and we ourselves have seen perfectly reproduced in an infant a somewhat rare form of parting—more affected perhaps by a previous generation—namely, a parting at the back of the head. A considerable series of illustrations show the various forms of the hair tracts on the scalp in juveniles. As the author justly observes, it is likely that the primitive mode of the hair arrangement in mammals was a simple slope trending backwards from the direction in which the animal mostly moves, and he points out that this simple arrangement is to be found in a variety of mammals belonging to the more primitive orders. In the otter, for example, and in many marsupials the hair shows no complicated whorls such as are exhibited, for instance, in the dog and in the horse. Dr. Kidd's explanation would be, we suppose, that sufficient specialisation in habit and movement has not yet had time to influence the hair growth as it has in oxen, horses, and many carnivora. Yet to point out that in animals admittedly primitive the hair slopes are also primitive is somewhat of an imprudent revelation of truth. If the original character —i.e., a regularity of hair inset equal to that of scale and feather inset—has persisted so long without great change in one or more groups, why should the horse and the dog, which are modern types relatively speaking, have shown so markedly the influence of muscular actions and so forth? It would seem as if the oldest types were exactly those which should show the greatest amount of change. The only explanation from the author's, and indeed from the reviewer's, point of view seems to be the unsatisfactory one that this group and that have possibilities which a third has not. For example, the carnivora do not, and never have, developed aggressive horns upon the head, while the ungulata can and do. Hawks and owls are never bright green, while parrots and pigeons are so at times. The breeders know well enough that they cannot by any amount of artificial selection produce this modification or that in the objects of their attention. Putting aside such possible cases, it must be confessed that Dr. Kidd has made out a plausible argument in favour of the inheritance of acquired characters so far as concerns those features with which his book deals. But whether the reader is convinced by Dr. Kidd and agrees with our estimate or not, he cannot fail to be interested and instructed by a careful study of the volume before us.

LIBRARY TABLE.

How to Keep Well. By FLOYD M. CRANDALL, M.D. London: Grant Richards. 1904. Pp. 511. Price 6*s.*—This work, the sub-title of which is "An Explanation of Modern Methods of Preventing Disease," is, we gather, written by an American physician for the instruction of the laity. As the author well says in his preface, "the time has come when the medical man should speak, not in his own defence, but in the defence of the people, who are easily misled to their own hurt." Altogether we have found it an admirable book. It does not teach people how to drug themselves but it sets forth the progress and functions of modern medicine in a plain manner, and Dr. Crandall writes with that mixture of shrewdness and geniality which seems to be the particular possession of our cousins on the other side of the Atlantic. One of the best chapters in the book is that on the Prevention of Breakdown and many a man if he follows the advice therein given will not only lengthen his life but will make it happier. Dr. Crandall quotes a saying of a well-known New York physician that he could do a year's work in eleven months but he could not do it in twelve, and then goes on to insist upon the need for all workers of an annual holiday. There is no doubt that he is right, for with the strain of modern life a holiday is not merely a pleasure but a necessity. Every man nowadays takes so much interest in health matters that we predict for Dr. Crandall's book a large *clientèle* of readers and if they only lay his dicta to heart they will be all the better for it, though Dr. Crandall's professional brethren will probably be the poorer.

A Manual for Students of Massage. By M. A. ELLISON. Second edition. Revised by GULIELMA MANLEY. London: Baillière, Tindall, and Cox. 1904. Pp. 126. Price 3*s.* 6*d.* net.—We reviewed the first edition of this unpretending little book in THE LANCET of Dec. 24th, 1898, and we see no reason to depart from the favourable opinion which we then expressed. The present edition has been brought up to date by the inclusion of some matter dealing with the use of massage in the treatment of recent fractures and sprains. The book lays down clearly what those who undertake massage should do and, what is equally valuable, what they should *not* do, *vide* the chapter entitled "Dont's," p. 95.

Herbert Fry's Royal Guide to the London Charities. Edited by JOHN LANE. London: Chatto and Windus. 1904. Pp. lvi.–391. Price 1*s.* 6*d.*—This very useful compilation is larger this year by some 150 pages than it was last year and, as we have mentioned before, it includes under the name of "Charities" a number of militant controversial associations which have no right to the name. These should be omitted, the more especially as we see that they are either unable or unwilling to give any "numbers of persons benefited." The book is so handy that we should like to see this blemish removed.

A Pocket-book of Clinical Methods. By CHARLES H. MELLAND, M.D. Lond., M.R.C.P. Lond. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1903. Pp. 88. Price 1*s.* 6*d.* net. —This is a clearly written account of the various clinical methods for the examination of sputum, the gastric contents, fæces, urine, pus and other pathological fluids, and the blood. Little is said of the deductions to be drawn from the results of the examination since, in the words of the author's preface, "these points are fully dealt with in the text-books of medicine." The book is eminently practical and will be of great use both to practitioners and to students employed in the wards of hospitals.

The Purin Bodies of Foodstuffs and the Rôle of Uric Acid in Health and Disease. By I. WALKER HALL, M.D. Vict., Assistant Lecturer in Physiology at the Owens College, Manchester. Second edition, revised. Manchester and London: Sherratt and Hughes. 1903. Pp. 201. Price 4*s.* 6*d.*—This is a very important contribution on a very important subject and in the review of the first edition of the work, which was issued in pamphlet form, we briefly outlined the directions in which the author had conducted his interesting investigations. There is no doubt that the purins play an important rôle in the metabolic processes and therefore it is of importance that their amount should be known in the various foodstuffs. The author has designed an instrument, which he has called the "purinometer," for the estimation of purins in urine. In the present edition there is a new chapter dealing with the action

of drugs upon the elimination of purin bodies, while the old title "The Significance of Food Purins in Metabolism" has been changed to "The Fate of Food Purins in Metabolism." In the appendix analytical details are given as is a table showing the constitution and calorific value of certain foodstuffs. The author has contributed some valuable work on points of the highest importance in dietetics.

A Laboratory Manual of Physiological Chemistry. By RALPH W. WEBSTER, M.D., Ph.D., Department of Physiological Chemistry, University of Chicago; and WALDEMAR KOCH, Ph.D., Department of Pharmacology, University of Chicago. Chicago: The University of Chicago Press; London: William Wesley and Sons. 1903. Pp. 107. Price 6*s.* 6*d.*—This book presents a straightforward laboratory course of physiological chemistry and so far as we have examined the experiments therein described, which refer to the chemistry of the cells, the preparation of the constituents in the tissues, and the chemistry of these tissues and of the digestive processes, they are clear and trustworthy in detail. The plan of the book is convenient and such as is likely to impart sound general knowledge of physiological processes. The work is summarised in an introductory note as follows: "The course begins with the study of the chemistry of protoplasm used in yeast as an example. The dependence of the reactions going on in yeast and other protoplasm upon the environment and the principles of chemical equilibrium are then taken up. This is followed by a study of the foods or raw products; their changes during cooking, digestion, and absorption; the chemistry of the blood and the master tissues, of the body, and finally the chemistry of the excretions." The subject is thus dealt with in a broad way having regard to its relationship not only to pathology, physics, chemistry, zoology, and botany, but to medicine and clinical chemistry. It is, perhaps, not a very important point but it is stated that milk should be neutral in reaction, whereas milk has when fresh an amphoteric reaction—the property, that is, of exhibiting apparently at the same time both a red and blue reaction with litmus paper. Generally speaking, however, milk may be said to be alkaline.

Hazell's Annual for 1904. London: Hazell, Watson, and Viney. Pp. 786. Price 3*s.* 6*d.* net.—This is the nineteenth year of issue of this most useful work which contains information upon most subjects which the would-be well-informed man wishes to know about. One remarkable feature about the book is that it is, to use the phraseology of the Liturgy, "indifferently" written—that is to say, even upon such burning questions as education and "passive resistance" it gives an impartial account of the matter under consideration. Altogether the work is a most valuable compilation.

The British Medical Association Year-Book for 1904. London: Published by the Association. Pp. 142. Price 1*s.*—This, so far as we know, is the first issue of a year-book by the British Medical Association and we think that it is a good departure. In it the reader will find everything that he wants to know about the Association, its officers, constitution, committees, and the like. A *résumé* of the last annual meeting at Swansea is given as well as information about the forthcoming meeting at Oxford.

Frondes Caducæ. By MONTAGU LOMAX. London: H. J. Glaisher. 1903. Pp. 112. Price 3*s.* 6*d.* net.—This is a little book of poems which, as the author says in his modest preface, "are now published more in the hope of giving pleasure to the few who know me than to the many whose suffrages I am not competent to gain." Mr. Lomax has certainly a spark of the divine fire and his verses flow easily. The best, we think, is the song beginning "One day with many a loving vow I kissed my lady fair," which has quite a ring of Prior about it. We are glad to see that Mr. Lomax accents the name "Trafalgar" rightly, as will be seen from the sonnet on p. 111.

Victoria, Regina et Imperatrix, a Hymn Dramatic of Life and Death. By GEORGE B. BARRACLOUGH, M.A., M.R.C.S. Eng. London: Morrish and Co. 1903. Pp. 9. Price 1*s.*—We give Mr. Barraclough every credit for his loyalty but his verses are somewhat recondite, a difficulty he himself seems to have experienced. He says, for instance:—

> "So faintly did he utter this
> I hardly gathered its import."

We do not wonder, for what "he" said was this,

> "The shadow of the falcon's wing,
> Shall fall upon the bird of song,
> Who, prone beneath the talons strong
> No more unto his mate shall sing.
>
> It is a God the twins occide,
> And Dark the tomb where he abides
> Within the chest his Body hides,
> Till Hermes raise him for his bride."

Bettws-y-Coed as a Health Resort. By a Member of the Medical Profession. Oswestry and Wrexham: Woodall, Minshall, Thomas, and Co. Pp. 41. Price 1*s.*—Bettws-y-Coed is such a charming place and is apparently still so old-fashioned that we are almost sorry that the "Member of the Medical Profession" has drawn attention to it. It seems to be an ideal place for a rest and the country round is full of objects of interest, especially for those who care for ecclesiology. How many are there, for instance, who know that Capel Curig is called after St. Cyriac who, together with his mother Julitta, was martyred in the Diocletian persecution? Bettws-y-Coed possesses a gravel soil, pure water, and pure air, together with an abundance of conifers, but we earnestly hope that it will never become fashionable and overgrown.

Lateral Curvature, Stooping, &c. By E. NOBLE SMITH, F.R.C.S.Edin. London: Smith, Elder, and Co. 1904. Pp. 133. Price 2*s.* 6*d.*—This little book gives a simple and practical account of lateral curvature of the spine which, as Mr. Noble Smith rightly says, may be called a symptom rather than a disease. The directions for treatment are sound and include the removal of the exciting causes, a discursus upon lying down, which is mainly mentioned as unsuitable, exercises, massage, and mechanical treatment. This latter chiefly resolves itself into the use of Chance's splint. The book contains an interesting chapter on the influence of diet upon physical development, while other chapters deal with the beneficial effects of development of the chest in cases of pulmonary tuberculosis. An excellent portion of the book is that dealing with clothing.

JOURNALS AND MAGAZINES.

The Monthly Review, which has now taken an assured place as one of the most important and responsible periodicals that we have, publishes in the February number some topical articles of great interest. Mr. Robert Machray discusses the crisis in the Far East with the simplicity that comes of knowledge of the subject; and his prophecy that "from a philosophical point of view the crisis is natural, inevitable, and is bound to come sooner or later, having its roots deep in history, its branches far outspread by forces always working in great, living, strenuous races," has already come true. Mr. R. A. Westenholz, president of the Agrarian League of Denmark, makes an important contribution to the fiscal question in an account of the present condition of Danish agriculture under free trade. Whether the conditions that have been so conducive to the agricultural prosperity of Denmark could have been enjoyed in this country during the past quarter of a century if our farmers had been more enterprising in the "sixties" and "seventies" and if our standards of technical education had received some little attention from politicians is another

matter and one which is outside the scope of Mr. Westenholz's paper. A third article which calls for particular notice, written by Mr. Paul Waterhouse, deals with the facilities usually supplied for emptying theatres of their audiences. It is not altogether cheerful reading, for the general lesson conveyed is that the arrangements for escape from even the best London theatres in case of fire would be ineffective if the audience were panic-stricken, and it is almost impossible to conceive of any audience not being panic-stricken in the terrible circumstances of a conflagration within a crowded building. We agree with the writer that some measure of safety would lie in "an aggregate of preparation—a state of accumulated corporate pre-knowledge," but there is not much consolation in the reflection. This means that the audience would have to do fire-drill occasionally, how this is to be managed we cannot conceive. To let the audience know beforehand that they would have to undergo fire-drill is to remove the panic that alone precludes a well-built theatre from being evacuated in five minutes, while to spring a fire-drill upon the audience might be to risk killing as many people upon the false alarm as would have perished, presumably, in the case of a fire. In the site of the theatre lies the solution of the problem. We cannot return to the semicircular excavation of the hill-side wherefrom the Greek saw the drama despite the elements; but our authorities might recognise, in all future licensing of buildings, the enormous advantages of building a theatre on the side of a steep hill, and the necessity of abundant street frontage.

MEDICINE AND THE LAW.

The Jurisdiction of Magistrates in Cases of "Conscientious Objection."

AN evening newspaper which openly avows its hostility to vaccination recently published a paragraph headed "An Antivaccinator's Mecca" in which it stated that the magistrates at Heywood had in a single day granted "20 vaccination exemption certificates to applicants from all parts of the country," making a total of 53 such certificates during January, and further, that in the same place over 400 certificates of exemption from vaccination were granted during last year. Heywood, a manufacturing town and district in Lancashire, contains about 27,000 inhabitants and the birth-rate within the jurisdiction of the borough magistrates can hardly, according to previous returns, have exceeded 700 in 1903. If, therefore, the 400 children spoken of as exempted from vaccination last year were born, or were living, in Heywood we have a proportion of at least four unvaccinated children in seven in that locality on whose behalf the formality of obtaining an exemption certificate has been gone through and these figures take no account of those whose parents may have been able to ignore the law altogether with impunity. The paragraph, however, suggests that owing to the course taken by the Heywood magistrates persons not residing within their jurisdiction apply to them and receive exemption certificates for use elsewhere. We are not aware of the question whether this can legally be done having been before the High Court but Sir John Bridge in the early days of the Act had no doubt that it could not. A gentleman living at Wimbledon applied to him at Bow-street police-court on Sept. 1st, 1988, less than three weeks after the passing of the Act, and was told that his application could not be heard. The applicant relied on the fact that no mention of locality is made in the section which provides for conscientious objections. The legislature, however, no doubt intended that these should be considered and dealt with at courts within the district in which the unvaccinated child was, in fact, living at the date of the application. It certainly was not intended that special magistrates should be selected at will by parents on account of their known or supposed peculiarities. The paragraph in question may not accurately present the facts; if it does so it points to a very undesirable state of affairs. At the South-Western police-court Mr. Garrett on Feb. 8th gave a similar decision to that of Sir John Bridge.

A Point under the Public Health Act.

At Tottenham police-court on Jan. 28th Dr. J. F. Butler-Hogan, medical officer of health of Tottenham, applied for and obtained an order under Section 102 of the Public Health Act, 1875, to compel his admission to certain schools maintained at Tottenham by the Drapers' Company. The point for the magistrates' decision was whether the medical officer of health was entitled to an order for admission to any premises which he might think it expedient to visit and to which his admission was refused by the occupiers or whether before obtaining such an order he must show either that a nuisance requiring abatement existed on the premises or that he had reason to believe in its existence. The portion of the section upon which Dr. Butler-Hogan relied is as follows: "The local authority or any of their officers shall be admitted into any premises for the purpose of examining as to the existence of any nuisance thereon." If this sentence taken by itself supports the contention that the representative of the local authority may enter any premises for the purpose of ascertaining whether or not anything constituting a nuisance exists upon them, the rest of the section and those surrounding it are aimed at the abating of such nuisances as are known to exist and it cannot be said to be clear from them that magistrates may order private premises to be inspected at discretion. In the metropolis such an order cannot be made. This was decided in 1899 in the case of Vines *v.* the North London Collegiate School for Girls, referred to at Tottenham by the solicitor representing the Drapers' Company and reported in the *Justice of the Peace*, vol. lxiii., p. 244, a case involving facts similar to those which gave rise to the application at Tottenham but governed by a different Act of Parliament. The Public Health Act, London, 1891, the construction of which was there involved, contains words more clearly against the right to inspect at discretion than anything to be found in the general Act of 1875. As it is quite possible that the Drapers' Company may not be content to accept the decision of the Tottenham magistrates and as it may be able to have the matter reconsidered in the High Court further comment would be out of place. The matter is of interest, not in connexion with the particular schools in question, against which, as has been said, no cause of complaint is alleged, but because there are many institutions the sanitary arrangements of which are likely to be in a highly undesirable condition but with regard to which nothing may occur to call the attention of the local authority to any nuisance until an outbreak of illness takes place.

The Medical Man, the Coroner, and the Pathologist.

The *Star* in an article headed "The Wise Economies of the County Council," which appeared in its issue of Feb. 6th, attributed to THE LANCET an article which appeared in the *British Medical Journal*, commenting upon the employment of Dr. Freyberger to hold the necropsy upon Whitaker Wright. We do not wish to express dissent from the views of our contemporary as to the attitude of the coroner towards the medical profession, but merely to disclaim the credit of having expressed them on the occasion alluded to. It would not, however, be correct to say of us that "the regularity of the coroner's procedure is not called in question," nor do we agree with the *Star* that this describes the attitude of the *British Medical Journal* upon the subject. We have freely expressed the opinion that the employment of Dr. Freyberger by Mr. Troutbeck in many cases in which he has been employed has not been in accordance with the sections of the Coroners Act relating to the calling of medical witnesses at inquests. We have also suggested that if the employment of Dr. Freyberger is not in accordance with the law the fees paid to him by the County Council in respect of it are improperly paid and that the right way to raise the question is by calling the attention of the County Council's auditor to them. If they have been wrongly paid it is his duty to surcharge them.

CAISSON DISEASE.—It is stated that five deaths have occurred in the execution of the foundation work for the Manhattan bridge, New York—three of them on the Brooklyn pier, which is now finished, and two on the New York pier, which is still in progress. The men are now working at a depth of 92 feet in two shifts a day of one and a half hours per shift with an interval of four and a half hours between shifts; the wages are 3½ dollars per day.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 13, 1904.

Public Affairs and Public Health.

A COMPLETE discussion of the actual or possible influences exerted upon public health by the course of public affairs would constitute a new and eminently interesting contribution to the etiology of disease. The happy condition of a nation that has no history, if such there be, must surround its constituent units, individually and collectively, with an atmosphere widely different from that to which we have become accustomed, and must render them exempt from many dangers to which we are prone. By the common consent of competent observers few things are more destructive of sound health than the class of demands upon vital force which are commonly described as "worry," and which arise, generally speaking, from uncertainty with regard to issues which are calculated to affect the prosperity of those whom they concern. The giants of the human race are able to cast off burdens of this description which fall with crushing weight upon the shoulders of weaker men. However they are engaged, whether in war, in politics, or in finance, they learn to decide quickly upon such elements of the problems presented to them as may be at the time available and, having decided, they act and wait. They dismiss the subject from their minds until the consequences of their action become apparent and until there is something more to be done. They harden their hearts against temptations to look back, or to reconsider that which is irrevocable, and devote their energies wholly to preparing for the future and to grasping it when it arrives. In this way, and probably in this way only, can the forces of the brain be entirely utilised and utilised in such a manner that no waste of power shall be permitted. The man who hunts yesterday's hare over again, or who dwells upon yesterday's letter, or who, by what our neighbours felicitously call *esprit d'escalier*, suffers his thoughts to linger upon the more effective manner in which it might have been possible to terminate last week's interview is giving his substance in exchange for that which is nought. He is squandering his nerve cells in a fashion which can yield him no return and which, not only by so much diminishes his power of using them fruitfully in other directions, but also, in all probability, converts some portion of the waste into material of a more or less toxic character. The first lesson of scientific education should be that a man's brain cells are not only money but capital and that it is just as possible to dissipate them foolishly as to use them in the work of building up a career.

Great public events, of whatever nature, are certain to entangle in their meshes innumerable people who at first sight might be supposed to lie beyond their influence and who are absolutely without responsibility for their occurrence. Readers of "Vanity Fair" will remember old SEDLEY'S touching complaint of the consequences brought upon him by the return of NAPOLEON from Elba and by having trusted in the representations of the great Powers who had declared their intention of keeping him there. At this very moment the prosperity of England, or rather, perhaps, the prosperity of many Englishmen, may be brought into jeopardy by the circumstances which have kindled a war of which no one can foresee the termination, and which, even if we should escape from being dragged into it, will assuredly work many changes in our commercial relations, and dry up some at least of the channels through which they have been conducted. The wages of thousands of Lancashire operatives have been diminished by the proceedings of cotton gamblers in another continent and the interests of the employers of those operatives are themselves seriously endangered by the continuance of the same proceedings. The weather of the current year, so far as experience of it extends, seems to promise that the agricultural losses of the past are more likely to be exceeded than to be repaired; and, to crown all, the aggregate wealth of the nation is seriously diminished by the prices of securities. Such a combination of affairs cannot exist without bringing the potentiality of serious disaster to many, the certainty of ruin to some. It can hardly be doubted that the conditions must throw unwonted stress upon the lives of large numbers of our countrymen and countrywomen and must at least have some influence in predisposing them to suffer from disease. The hearts of many men must be "failing them for fear and for looking after those things which are coming on the earth," and by so much their resisting power must be diminished. They must walk warily if they would emerge victorious from a contest in which they cannot refuse to engage.

In such circumstances it surely behoves the members of the medical profession to justify their claim to be public advisers by giving such wholesome counsel as the occasion may require. Every man in practice comes into possession of knowledge concerning the affairs of his patients and is able, at the very least, to form shrewd guesses as to the various skeletons which their cupboards may conceal. It should be an important part of his functions to see that these skeletons are neither brought out for examination with undue frequency, nor ignored at times when a recollection of them might prove a safeguard against danger. If we think only of the future of England we may feel a conviction amounting to certainty that she will emerge from her trials, whatever they may be, stronger and more glorious than even in the past. We cannot conceal from ourselves the probability that the public events by which we are confronted will tell hardly, it may be even destructively, upon individuals, and our business is with individuals and with their preparedness for anything which the fates may have in store for them. We should instruct the harassed man as to the methods by which he may either husband his strength or waste it and should try to make known the value of prudence, of temperance, and of moderation. Among the temptations of such a time excess in the use of tobacco is not the least, nor is it the least certain to be followed at critical periods by comparative loss

of the power to think with clearness and to decide with wisdom. Every practitioner must have seen examples of brain failure under conditions of anxiety and stress which have been more attributable to frequent "nips" of alcohol and to multitudinous cigarettes than to any real disproportion between the powers of the unpoisoned nerve structure and the work which it was called upon to accomplish. For every man whose commercial future is brought into danger by public events the wisest counsel is that he should keep in sound physical training. The more excellent the condition of his bodily health and the more wholesome his habits of life the more certain will he be, other things being equal, to master adverse circumstances by which a feeble man would be overcome. The pressure of anxiety does not necessarily mean disease, but it does mean an increased liability to succumb to its invasion. The part of the prudent is to be wise in time and to neglect no preparation for a contest of which it may be impossible to foresee either the duration or the severity.

The Spread of Small-pox by Tramps.

WHAT a potent factor in maintaining the prevalence of small-pox is that unemployed and largely unemployable degenerate the habitual vagrant or tramp who forms a prominent feature on the highways of our midland counties! The fact that this parasite upon the charity and good nature of the community is in his turn a vehicle for the spread of other parasites, both animal and vegetable, is common knowledge but practically no compulsory steps have been taken to curtail seriously the vagrant's movements or to promote his elementary cleanliness. Dr. P. BOOBBYER, medical officer of health for Nottingham, furnishes in a recent official report some admirable illustrations of the success which attends the efforts of the tramp to assist the conscientious objector in keeping small-pox from leaving our shores. The facts communicated in the report are remarkable. Dr. BOOBBYER tells us that at the beginning of 1903 a casual labourer, who at times figured as a professional tramp, was the means of spreading small-pox to no fewer than a dozen persons, the success of his efforts being apparently due to the fact that he paid a visit to a public-house at a time when the trade was brisk. Shortly after this incident a tramp who had manifested a small-pox eruption for the past three days was admitted into the Nottingham workhouse and it appeared that in his recent wanderings he had passed through Loughborough, Leicester, Mansfield, and Doncaster. Again, but still in January, 1903, another tramp developed small-pox on arrival at H.M. Prison at Nottingham and two days later another of these unfortunate wayfarers presented himself at the Basford workhouse, Nottingham, with the eruption of small-pox just appearing. Yet another two days and a second brace of tramps suffering from the same disease were admitted into the same institution. Early in February a tramp suffering from small-pox was found in one of the common lodging houses *en route* through the town from north to south, and on the 15th of the same month a man who had tramped from Burton-on-Trent and who had manifested a small-pox eruption during the greater part of the journey was admitted into the Nottingham workhouse. Another instance of infection by tramps occurred in February and in April a tramp from Loughborough and another from Mansfield were admitted into the Basford workhouse with a variolous eruption already well developed. During November three cases of small-pox occurred at Bulwell, a northern suburb of Nottingham, and others at Narrow Marsh, near the centre of the town, which had been infected by a tramp who passed through these two districts at the end of October (without detention) and who was ultimately discovered at Rothwell in Northamptonshire scarred by recent small-pox. One of this last series was instrumental in conveying the disease into the Nottingham workhouse where several persons were subsequently infected. Finally, by way of a crowning instance, Dr. BOOBBYER tells the story of a tramp who with the vesicular eruption of small-pox upon him paid a visit to a barber's shop and a public-house and was thus the means of infecting "at least 14 persons resident in various parts of the central and eastern divisions of Nottingham, including at least two in the Narrow Marsh district—one of the worst slums in the midland counties—from which neighbourhood a dropping fire of cases have been coming at short intervals ever since." This, then, is the unfortunate history of Nottingham.

But in illustration of the fact that the experience of this midland borough is in no sense exceptional we may refer to a report made by the medical officer of health of Newcastle upon "small-pox and vagrants in England and Wales" during the epidemic of 1891-93. In this paper Dr. HENRY E. ARMSTRONG stated that "of 63 urban districts invaded by small-pox in no less than 59 per cent. the disease was known to have been first introduced there by vagrants, and in 73 per cent. it was carried there sooner or later by this class. During the epidemic *secondary* introductions of small-pox by vagrants occurred ten times in each of 14 districts, 12 times in one district, 15 times in another, 18 times in another, and no less than 25 times in another." The report from which we have just quoted was instrumental in bringing together a conference under the auspices of the London County Council at which certain elementary recommendations were formulated and forwarded to the Local Government Board. They have not, however, yet got so far as the floor of the House of Commons. It is somewhat remarkable that the steps necessary to limit the mischief caused by these unfortunate vagrants have never been taken, not even so far as to require the vaccination and revaccination of persons in common lodging houses or casual wards who are exposed to the infection of small-pox. For ourselves we should like to see this subject taken up by some leading Member of Parliament, such as Sir MICHAEL FOSTER. We can hardly believe that if the facts which we have recorded were placed before the House with the eloquence of which the member for the University of London is capable the common-sense of the members would not carry the Revaccination Bill with an overwhelming majority. If the provisions of the much needed Bill, which we noticed in a leading article in our issue of Feb. 6th, p. 377, were properly carried out in the country generally, and applied with vigour in the vagrant wards, the charts of small-pox in England would

henceforth be innocent of those black vertical lines indicating epidemic outbreaks of the disease. Will not Mr. LONG take under his powerful wing the Revaccination Bill and let his name be handed down to posterity as the Minister of Preventive Medicine who banished small-pox from the land!

Brandy v. British Brandy.

AT Church, near Accrington, five hotel-keepers have recently been summoned and fined 40s. each under the Sale of Food and Drugs Act, 1875, for selling as "brandy" to the prejudice of the purchaser an article not of the nature, substance, and quality demanded by him. Apparently the police entered each of the hotels in question and asked for a pint of brandy, when they were supplied in all cases with a liquid which is perfectly well recognised under the term "British brandy" but which, in fact, is not brandy at all. Brandy, as its name implies, is necessarily a grape spirit. The word is a natural abbreviation of "brandy-wine," a term once frequently used, which in its turn was an Anglicised form of the Dutch "*brande-wijn*," or burnt wine—that is, the product of the distillation of wine. The manufacture of true brandy was fully dealt with in THE LANCET of Nov. 29th, 1902, p. 1503, and attention has been called in these pages on other occasions to the nature of the spirit sold in many public-houses and refreshment bars when brandy is asked for. The magistrates at Accrington are to be congratulated on having refused to believe that a man asking for brandy intends to receive an ardent spirit distilled from grain or from materials other than the juice of the grape when the recognised term British brandy exists should the purchaser choose to make use of it. The mere fact that the term British brandy has been invented and applied to the home product shows that at some time or other in the development of the English language it was felt that the word brandy by itself had a limited meaning, implying peculiar qualities. Apparently the solicitor for the defence in the recent cases at Accrington referred to the recognition of British brandy in Acts of Parliament of the seventeenth century. It is perfectly true that the possible manufacture of a spirit imitating brandy was early recognised by the Excise but this was in peculiar circumstances which have long since passed away and the spirit when first known seems to have been exclusively a subject of import.

Some of the old statutes upon the subject are of interest. The STUARTS, constantly in need of money, found strong liquors a convenient source of revenue and in two Acts of 1660 (12 Car. II., cc. 23 and 24) spirits are subjected to taxation in the following terms: "For every gallon of strong water or aqua vitæ made and sold to be paid by the maker thereof, one penny." "For every gallon of spirits made of any kind of wine or cyder imported, two pence." "For every gallon of strong water perfectly made, imported from beyond the seas, four pence." Ten years later a third Act (22 Car. II., c. 4) was found necessary in order to clear up an ambiguity. The preamble of this Act of 1670 is as follows:—

"Whereas by two Acts made in the 12th year of His Majesty's reign and confirmed by this present Parliament there was laid upon every gallon of spirits, made of any kind of wine or cyder imported, the rate and duty of fourpence—namely, by each of the said Acts twopence—and upon every gallon of strong water perfectly made, imported from beyond the seas, the rate and duty of eightpence; and whereas some doubts have been made and raised concerning a certain liquor imported from beyond the seas, called brandy, whether the same should pay the rate and duty laid by the said Acts upon spirits made of any kind of wine or cyder imported or the rate and duty thereby laid upon strong water perfectly made imported from beyond the seas."

It is then declared "that the said liquor called brandy was at the time of making and confirming of the said Acts and is a strong water perfectly made and being imported from beyond the seas was and is chargeable in and by the said Acts with the rate and duty of eight pence per gallon." The deductions to be drawn from the passages which we have cited would seem to be that brandy was known in England not only in 1670 but even earlier, and that when the Act of 1660 was passed the "strong water or aqua vitæ" made in the country was not considered to be a form of brandy or a substitute for it, because if brandy had been recognised as similar to the already existing aqua vitæ it would have been taxed without question as a strong water imported. The Act of 1670, however, by its recital, shows that brandy was then a comparatively recent and not well-known beverage, that its preparation from the juice of the grape was recognised, and that it was regarded as a purely foreign spirit, taxable as such. Twenty years later, however, there was a change, due to conditions arising out of war with France, and an Act (2 W. & M., c. 19) commences thus:—

"Whereas by an Act made in Parliament held in the first year of their Majesties' reign, intituled 'An Act for prohibiting all trade and commerce with France,' all brandies, aqua vitæ, and spirits are prohibited to be imported into this kingdom, and whereas good and wholesome brandies, aqua vitæ, and spirits may be drawn and made from malted corn: For the encouragement therefore of the making of brandies, strong waters, and spirits from malted corn and for the greater consumption of corn and the advantage of tillage in this kingdom be it enacted ....."

At present happily we are far from being at war with France and there is no public demand for a so-called brandy made from potatoes, beetroot molasses, and other sources of alcohol which the ingenuity of chemists has discovered. We associate brandy, whether it comes from France, or Australia, or California, or elsewhere, with the distillation of fermented grape juice and nothing else. It was this distillation from wine which gave to brandy its high reputation centuries before the STUARTS reigned and before the imported beverage, no doubt highly popular with good livers under KING CHARLES II., became the gauger's prey.

The distillation of spirit from wine, under whatever name the product first figured, seems to have been the achievement of continental chemists in the thirteenth century and RAYMOND LULLY of Majorca, disciple of the actual inventor, ARNAULD DE VILLENEUVE, believing it to be a discovery of supreme importance to mankind, wrote of it thus in enthusiastic terms: "Limpid and well-flavoured red or white wine is to be digested 20 days in a close vessel by the heat of fermenting horsedung and then to be distilled in a sandbath with a very gentle fire. The true water of life will come over in precious drops, which being rectified by three or four successive distillations will afford the wonderful quintessence of wine." Processes may have changed in

detail but when we ask for brandy, the term of Low German origin most generally employed in this country, we use a word implying (to those who seek its derivation) the "quintessence of wine," and we are glad to see that under so modern an enactment as the Sale of Food and Drugs Act we are entitled to get it.

In view of the importance of brandy from a medicinal point of view and the evidence of clinical experience it is satisfactory at length to find signs of some control being established over the sale of worthless substitutes. Good brandy is *par excellence* the medicinally valuable spirit and its timely administration has saved many lives. We are gratified to find that there is promise of the investigations of THE LANCET Analytical Commission upon this important subject bearing good fruit.

The Biological and Comparative Aspects of Cancer.

A CONNECTED narrative of the results of recent investigations into cancer by different groups of workers will lead to a better conception of the bearings of such work upon our present knowledge. The lines of inquiry which have led apparently to issues of importance have been essentially biological in character. It is no new thing to regard cancer from the biological standpoint, as all readers of THE LANCET know. We do not, however, here intend to refer to any prophetic expressions of early pathologists but only to consider essentially modern research. In an address on the Relation of Biology to Medicine delivered by Dr. Dr. J. ROSE BRADFORD and published in our columns on June 21st, 1902, p. 1747, it was distinctly pointed out that "whatever the nature of cancer may be a great amount of light will be thrown on that question by the researches of the pure biologist rather than by those of the human pathologist," and he indicated that this line of inquiry must of necessity throw light alike on the appearance which had been regarded as evidence of the presence of causative parasites and on the minute histology proper of the cell, which, in its relationship to cancer, had hardly been touched. It was not, however, until the Cancer Research Fund entered on its investigations that the biological and comparative aspects of the problem of cancer were approached in a serious fashion. And already this line of investigation has been productive of new facts, while, by placing upon a comparative basis all that has hitherto been recognised as essentially characteristic of cancer in man, it has given a new significance to long-recognised conditions. The extent to which cancer permeates the different divisions of the animal kingdom has not yet been fully ascertained, but the knowledge of the extent of its ramifications has been sufficient to narrow the field of inquiry to the few conditions which are common to the animal forms in which cancer occurs. Thus by an apparent extension of the field of inquiry in the first instance an actual narrowing of the investigation has been effected, and the facts ascertained by the comparative study of the zoological distribution of cancer will have to be reckoned with in future work on the malignant new growths from which human beings, in common with the lower animals, suffer.

The papers which have recently appeared have, we think, received somewhat precipitate publication, and the purely cytological observations placed on record have therefore not been brought into proper correlation; indeed, it is not improbable that much investigation will be necessary before this is attained. It often happens, when scientific investigation and thought are focussed on a problem at a time when it is ripe for study, that many independent workers approach the same goal by different paths. This has been the case with cancer, for while we have specially in our mind, as we write, three communications which have just been made public, it is well known that other observers than the authors of these papers have been drawn towards a similar solution of the problem of the nature of cancer. In the first of the three papers to which we are alluding, Professor J. B. FARMER, Mr. J. E. S. MOORE, and Mr. C. E. WALKER were concerned with the study of the cytological characteristics of malignant new growths in man. The occurrence in cancer of those types of cell division which had hitherto been regarded as peculiar to the reproductive tissues was placed on record and interpreted by the writers to signify that malignant new growths were virtually reproductive tissue. This conclusion was strengthened by an analogy drawn from plant life. The prothallus of the fern consists of cells which have undergone the peculiar reducing division in question, and it was stated that this reproductive tissue behaved towards the parent fern plant in the same way that a cancer behaves towards the human patient. It was further argued that the tissues of the asexual generation of the fern plant could be experimentally converted into reproductive tissue by external agencies and conditions. This fact was held to be analogous to the greater prevalence of cancer in certain districts or even houses. The publication, with the authority of the executive committee of the Cancer Research Fund, of the second paper was necessitated by the appearance of the first. This paper, which was communicated to the Royal Society by Dr. E. F. BASHFORD, Director of the Cancer Research Laboratory, and Dr. J. A. MURRAY, has been already referred to by us in a leading article, and is published in full on p. 413 of this issue of THE LANCET. It seems to have already caused Professor FARMER, in an article which he has contributed to *Nature*, to modify the views originally held. Dr. BASHFORD and Dr. MURRAY set out the facts showing the extent to which cancer is found throughout the animal kingdom and the deductions based on the uniform character of malignant new growths notwithstanding their wide distribution. From these observations the conclusion is drawn by them that cancer must not be regarded from the standpoint of human pathology, but its cause and nature must be sought for in the potentialities which reside in the cells constituting the living body in divergent forms of animal life. In accordance with this view external conditions can only play a very subsidiary rôle, if any, in causing cancer. The conclusions are extended by giving comparative significance to the observations by Professor FARMER, Mr. MOORE, and Mr. WALKER on the nature of some of the cell divisions which occur in the malignant new growths of man. The occurrence of these peculiar mitoses is, however, regarded merely as a phase in the life-history of malignant new growths,

which are not built up solely of cells comparable to the tissue of the fern prothallus or to certain cells in normal reproductive tissue. Dr. BASHFORD and Dr. MURRAY abstain from ascribing to the cells simulating reproductive elements either the absolute diagnostic value or the responsibility for malignancy which has been claimed for them and their descendants. It will be seen that they do not follow Professor FARMER and his colleagues, even while from a different standpoint they record confirmatory work.

Referring further to the paper which we publish this week, the potentialities residing in the cancer cells can be seen to be exemplified by observations on the transmissibility of cancer from one animal to another. It is demonstrated that in successful transmission the tumours which arise are the genealogical descendants of the cells actually introduced. The artificial transplantation of a malignant tumour is not regarded as throwing any light upon the origin of cancer, but as demonstrating that the proliferative activity of its cells can persist for a long time. This great power of proliferative activity, it is indicated, may depend upon the peculiar forms of cell division which some of the cells undergo. In other words, the cells which have undergone the peculiar reducing division may have prepared themselves for conjugation.[1] Conjugation is an act of fertilisation and when properly consummated gives rise to fresh generations throughout the entire animal and vegetable kingdoms. It is therefore not impossible that future work will show that many of those characteristics which are summed up in the word malignancy—the independence, the power of proliferation, the formation of metastases, and successful transplantation of cancer—are intimately related to the occurrence of cell conjugation. When it is stated that a malignant new growth belongs to a new cycle, comparable in its entirety to the organism which it is invading, it is not thereby implied that a malignant new growth is comparable to an embryo but rather that the cancerous tissue possesses the characteristics of a protozoan colony. Such, a little roughly speaking, are the lessons to be drawn so far from the consideration of the biological aspects of cancer. Enough has been established to make it of prime importance that systematic work on the same lines should go forward.

[1] A paper entitled "Conjugation of Resting Nuclei in an Epithelioma of the Mouse" was communicated to the Royal Society on Feb. 4th by Dr. Bashford and Dr. Murray.

Annotations.

"Ne quid nimis."

MR. WALTER LONG AND THE LONDON COUNTY COUNCIL

EFFORTS to save and to prolong life, to prevent disease, and to promote happiness are not, as a rule, attended by that glamour which waits upon those whose work is more particularly associated with the destruction of life and property and with the existence of disease and misery. Without entering into a discussion as to the ethics of this difference it affords us much pleasure to be able to record that the efforts of those who spend their lives in the war against disease have been recently acknowledged in a gracious fashion by the commander-in-chief of the public health service of this country. It is now a considerable time since the public has been startled by announcements in the lay press that cases of exotic disease have passed our first line of defence and have gained a footing in the metropolis. But it will not be without interest to the medical profession and to the public to learn that as recently as Christmas Day the officers of the Medical Department of the Local Government Board and of the London County Council were busily engaged in investigating a group of suspicious cases of illness which was by some regarded as being of the nature of plague. It will also be a source of satisfaction to the public to learn that so admirably were our defensive measures found to be organised that although in this instance the alarm was a false one the President of the Local Government Board directed that the following letter of appreciation should be sent to Mr. Shirley F. Murphy, the distinguished medical officer of the London County Council:—

Local Government Board, Whitehall, S.W.,
Jan. 1st, 1904.

DEAR SIR,—The memorandum which you sent to the medical officer of this department on the 28th ultimo, detailing the various steps taken by yourself and other officers of the London County Council in connexion with the recent cases of suspected plague in Limehouse, has been laid before Mr. Long, and I am desired by him to express his appreciation of your prompt action in the matter and of the cordial co-operation of yourself and the other officers of the Council with the officers of this department. The result, as showing the efficient working of the machinery for dealing with such cases, appears to Mr. Long to be very satisfactory. I am, dear Sir, yours faithfully,

(Signed) H. J. MONTEITH.

Dr. Shirley F. Murphy, 8, St. Martin's-place, W.C.

We congratulate Mr. Shirley Murphy upon this incident and we, moreover, express our appreciation of this graceful act on the part of the President of the Local Government Board. In order that there may be thorough efficiency in the public health service it is necessary that all branches of it shall work in harmony, and a word of recognition from time to time from the head of the service is one of the very best means of promoting such harmony and efficiency.

THE TRAINING OF MIDWIFERY NURSES AT THE ROTUNDA HOSPITAL, DUBLIN, AND THE REGULATIONS OF THE CENTRAL MIDWIVES BOARD.

WE publish elsewhere a copy of the correspondence which has passed between the Master of the Rotunda Hospital, Mr. E. Hastings Tweedy, and the secretary of the Central Midwives Board. It would appear that under the present regulations of the Board, by which a woman "must have attended and watched the progress of not less than 20 labours and personally delivered the patient, and, further, must have nursed 20 lying-in women during the ten days following labour," the nurses trained at the Rotunda Hospital are precluded from qualifying for admission as candidates to the examinations of the Board. This is due to the fact that in this hospital the patients as a rule leave on the eighth day following their confinement and, further, that it is impossible for each of the nurses, although they spend six months in the hospital, personally to conduct 20 cases of labour. As Mr. Hastings Tweedy aptly points out, six months' residence in a lying-in hospital is regarded by many of the examining bodies as affording the ideal training for a medical student, and when this period of time is so spent the personal conduction of any specified number of labours is not insisted upon. Certainly the facts brought forward with regard to the teaching of the midwifery nurses in the Rotunda Hospital would tend to show that the training which they receive is of the highest character and we have no doubt but that it is so. The Rotunda Hospital has long been considered one of the best training schools for students in midwifery and in these circumstances the training which its nurses receive is certain to be most efficient. This, however, is not a consideration which can be taken into account. The

present curriculum for the midwifery nurses does not comply with the regulations of the Board as approved by the Privy Council for a period of three years from August 12th, 1903, and in these circumstances the Central Midwives Board had no alternative but to reply to Mr. Tweedy that it was impossible for it to make any alteration in the regulations. It is most unfortunate that the matter was not brought to its notice before the rules were approved as it is quite obvious that the training of these nurses is such as well to qualify them for the State examination. It will, however, still be some little time before the first of these examinations is held and in the meantime we hope that some way out of the difficulty may be found. It would obviously be regrettable if any permanent disqualification of the Dublin nurses were to ensue.

GLADIATORIAL SHOWS.

WE are not among those who can see nothing that is good in public exhibitions of athletic skill in which danger is not entirely absent or in which the element of personal antagonism also plays a part. It is easy to deride such a sight as that of a recent great wrestling match and to declare that with all our vaunted advances we preserve the debased tastes of Rome in its degenerate days. Moralists in this strain are one-sided persons and they are also likely to miss important points. To begin with, there is all the difference in the world between a combat such as that to which we have referred and the gladiatorial shows of ancient Rome. In these there was not merely the chance of danger but the certainty of it and the probability of death itself was the piquant sauce which chiefly affected the jaded palate of the Roman spectator. Moreover, the gladiators were not, as a rule, free agents in the matter. They could not choose with whom or with what they would fight or whether they would fight at all. To witness such a sight as that of a man battling for his very life with an infuriated wild beast may be exciting but it can have no elevating influence of any kind. A very different effect is produced when two highly trained athletes choose to enter the ring for a fair trial of strength and skill. There is something stirring in the mere aspect of a fine specimen of physical development and condition. That same quality of admiration by which the typical Englishman is moved at the view of a splendid racehorse is not a thing to be deplored or despised and it is the same emotion in a higher degree which is aroused by the spectacle of human physical attainment at its highest point. In the latter case, moreover, the sight appeals more directly as an example and may lead in the case of many a beholder to some exercise of those admirable qualities of restraint, of self-denial, and of good temper without which a successful athlete is scarcely to be developed. A cavil might be raised that what we have said applies equally to the abolished prize-fight. That is true only so far as the combatants are concerned, it is not true with regard to the nature of their contest. Nobody objects to the skill, the strength, and the courage of the prize-fighter; it is the brutality which necessarily accompanies a competitive exhibition of these qualities in boxing that justifies the prohibition of the prize-fight. Wrestling entails no such brutality and though to our minds a far less interesting sport to witness than good boxing is yet a worthy incentive to physical training on the part of those who seek proficiency in the art. We have suggested that athletic exhibitions by trained experts are to be approved of because of the fine physical example, an emulation of which they may stir within the breasts of young men who witness their performance. It is spectators of this kind with whom alone we sympathise. The young man's inclination for athletic exercise and all the advantages that proper physical exercise entails is stimulated by watching those of greater prowess than his own and such a young man is the proper element in an audience such as that at Olympia. We confess to no sympathy at all with those who watch a contest for the mere excitement of it. The fat man who has never attempted athletics, who is chiefly attracted to boxing matches by the big cigar behind which he watches them and the big bet by which he may gain from them—such men as he have no more fitting place in the audience than has a woman or a child. The last two are out of place, because one would not if she could and the other could not if he would emulate the athlete's qualities.

THE HOSPITAL ISOLATION OF SCARLET FEVER.

WE have received a copy of a report presented to the health committee of the borough of Portsmouth by Dr. A. Mearns Fraser, medical officer of health of the borough, on the subject of hospital isolation of scarlet fever. Dr. Fraser commences by stating that certain criticisms had appeared in the local press as regards the admission of patients into the Milton Hospital and that the board of guardians had written to the Local Government Board complaining of neglect on the part of the sanitary authority. He wished to show that much misunderstanding existed on the subject. His remarks are of considerable interest and we are glad to note that the report was unanimously adopted by the Portsmouth sanitary authority together with a vote of thanks to Dr. Fraser for presenting it. On several occasions of late years it had proved necessary to keep patients waiting a few days before admission to the hospital. The patients were suffering from scarlet fever, diphtheria, or typhoid fever. This fact was deemed sufficient to found a charge of neglect against the sanitary authority by those who, without understanding fully all the circumstances, were apparently of opinion that it was the duty of the sanitary authority to have at all times in readiness an isolation hospital large enough to admit all the cases of infectious disease that might occur in the town. Dr. Fraser points out that on every occasion when patients had to wait for admission the cause has been the large number of scarlet fever patients and the large proportion of beds in the hospital that it was found necessary to devote to that disease. He therefore quite logically concluded that the determining factor in estimating the size of the hospital must be the number of scarlet fever patients to be admitted. He further tells the health committee that if it is proposed to maintain a hospital large enough to admit all cases of scarlet fever a hospital twice the size of the existing one would be required. As this would entail great additional cost he asked the question: "Is the benefit to the borough that will result from the admission of every case of scarlet fever that desires hospital treatment worth an additional £3000 to £4000 per annum?" In order to obtain assistance in arriving at the solution of this problem he gives certain statistics which are well worthy of attention. He first asks, "Is scarlet fever a disease of such great importance—i.e., is it a cause of so great a mortality or illness—as to warrant a large proportion of the rates being spent upon it?" He arrives at his answer by analysing the death returns of the borough for the past ten years. He gives a table comparing the mortality from scarlet fever with that from other diseases and shows that so far from scarlet fever being one of the most fatal it is actually one of the least dangerous diseases, the death-rate being decidedly lower than that from whooping-cough, diphtheria, typhoid fever, or measles. Next he considers the question, "Is scarlet fever a disease of such a character that the chances of the patient's recovery are greatly enhanced by hospital treatment?" Again the answer is in the negative. During

the past ten years 5859 cases of scarlet fever were notified in Portsmouth. Of these, 3259 were treated in the hospital and 2600 at their own homes. Of the hospital cases 97·46 per cent. recovered whilst of the others 96·58 per cent. recovered. In relation to these two questions it must be remembered that the mortality from scarlet fever varies greatly in different epidemics but by taking the returns for ten years Dr. Fraser has to a great extent avoided a possible error. The death rate from scarlet fever also appears to be much lower in Portsmouth than it is in London. He next asks the all-important question, "Does isolation in hospital prevent the spread of scarlet fever?" He admits that this is a very difficult point to settle. He gives as his own personal opinion that the value of hospitals for infectious disease in the prevention of scarlet fever has been greatly over-estimated and he advances arguments in favour of this view. He states his case clearly and lucidly and the points which he raises are worthy of careful consideration; he particularly insists that his remarks must be taken as applying only to scarlet fever. Before expressing any definite opinion on the matter we think it would be of value if the medical officers of health of other boroughs would bring forward their statistics as corroborating or otherwise Dr. Fraser's conclusions. The question of providing accommodation for cases of infectious diseases is of the utmost importance to the community in general. At the same time the borough councils are naturally desirous of lowering expense so far as is consistent with the most modern views of medical science.

"A SCHEME FOR THE COMPARISON OF CLIMATES."

UNDER this title Mr. W. F. Tyler has published in pamphlet form[1] a paper which is reprinted from the February number of the *Journal of Balneology and Climatology*. Mr. Tyler is not a medical man but has had excellent opportunities of studying the subject during a long residence in Shanghai and as a Fellow of the Royal Meteorological Society he is likely to be acquainted with current ideas on this confessedly vague and uncertain topic. He assumes in the first place that the factors in the formation of climate are chiefly temperature, soil, prevailing winds, aspect, rainfall, humidity, altitude, and sunshine. He further assumes that the word climate is generally used to indicate, in respect to a particular locality, the effect of local conditions generally on persons of varying temperaments. Obviously, therefore, the estimation of climate does not admit of anything approaching the precision with which the meteorological and topographical conditions just mentioned can be expressed. The foundation of Mr. Tyler's proposed scheme is the idea of equal differences of sensations of various kinds and he thinks that the idea of climate is mainly the joint effect produced by temperature and humidity on the sensations of the inhabitants of the particular locality. In 1902 an attempt was made to give concrete expression to these sensations, or differences of sensations, by observations made on themselves at Shanghai by 12 individuals of normal condition and regular habits on each day of the month of August in that year. The word "hyther" was coined to indicate the sensation which is caused by a warm climate and is supposed to be due to the combined effect of heat and humidity. The observers, each for himself, estimated daily at noon the degree of "hyther" on a scale of 0 to 10. On this scale 10 represented the very worst day that the observers remembered to have experienced in Shanghai—hot, damp, and enervating; while 0 represented an ideal summer's day—warm, of course, but bright, brisk, and bracing, when a person suitably attired felt no discomfort from temperature and humidity. These records when plotted as diagrams on squared paper could not be expected to give approximately coincident curves, but, nevertheless, there was an amount of agreement between several of them which led Mr. Tyler to the conclusion that the principle was sound. A number of such graphic curves are shown in the pamphlet and their relations to the instrumentally recorded meteorological phenomena are discussed. In records of sensations it is evident that a great deal will depend on the previous training and the general psychology of the observer.

[1] John Bale, Sons, and Danielsson, Limited, Great Titchfield-street, Oxford-street, London, W., pp. 31.

FALLACIES ABOUT FISH FOOD.

IT is doubtful whether any given food in common use contains constituents which have a selective action, so to speak, or the property of ministering to one part of the body more than another. As a rule, when a food is assumed to have specific reparative properties—as, for example, a so-called brain or nerve food—the fact really is that such food is easily and quickly assimilated to the body's general advantage; in a word, in such a case repair quickly overtakes waste and a real purposeful nutrition and restoration are accomplished. The administration of such elements as phosphorus or iron in medicine is, of course, a different matter, but these elements are evenly distributed in the materials of a daily diet. It is often stated that fish is a food which ministers particularly to the needs of the brain because it contains phosphorus. As a matter of fact fish does not contain more phosphorus than do ordinary meat foods and it certainly does not contain it in the free state. The notion that fish contains phosphorus had no doubt its origin in the glowing or phosphorescence of fish in the dark. This phosphorescence is due not to phosphorus at all but to micro-organisms. The belief therefore that fish is a brain food is just about as reasonable as the idea that because a soup is thick and gelatinous "it will stick to the ribs," or as sensible as the celebrated advice to Verdant Green to lay in a stock of Reading biscuits to assist his reading. Fish, of course, is excellent food, partly because of the nourishing nature of its constituents and partly because of its digestibility. But it is in no sense a specific for brain or nerve. It is stated by some that a fish diet has an aphrodisiac effect; if this be so it is probably due to its favourable action upon the processes of nutrition and not to phosphorus. In connexion with this reputed property of fish food Dr. I. Burney Yeo quotes a remarkable passage in Montesquieu's "Esprit des Lois" which is as follows: "The founders of the religious orders who desired to subject their unhappy victims to the impracticable law of chastity wholly missed their end in prescribing for them the habitual use of fish."

THE SANITARY INSTITUTE.

THE following officers will preside over meetings of the next congress of the Sanitary Institute to be held in Glasgow from July 25th to 30th. President of the Congress, The Right Hon. Lord Blythswood, LL.D., D.L., J.P. Section I., Sanitary Science and Preventive Medicine: President, Professor J. Glaister, M.D., D.P.H., F.C.S. F.R.S. Edin. Section II., Engineering and Architecture President, Professor H. Robinson, M. Inst. C.E. Section III., Physics, Chemistry, and Biology: President, Professor Clowes, D.Sc., F.I.C., F.C.S. At the conferences, of which there will be eight, the following will preside:—Municipal Representatives: Councillor W. F. Anderson. Industrial Hygiene: Councillor J. Steele. Medical Officers of Health: Sir Charles A. Cameron, C.B., M.D. Engineers and Surveyors to County and other Sanitary Authorities: William Weaver, M. Inst. C.E. Veterinary Inspectors: Professor James McCall, F.R.C.V.S. Sanitary Inspectors:

Mr. T. F. Strutt. Women on Hygiene: Her Grace the Duchess of Montrose. Hygiene of School Life: Professor J. Edgar, M.A. The public lecture to the Congress will be delivered by Sir Richard Douglas Powell, Bart., K.C.V.O., M.D., who has chosen as his subject the Prevention of Consumption.

THE HEALTH OF THE PRIME MINISTER.

MR. BALFOUR has been suffering from a somewhat severe attack of influenza accompanied by bronchial catarrh. Mr. Venning, finding on Sunday, Feb. 7th, that the bronchial symptoms were not clearing up so fast as he could wish, suggested a consultation with Sir Douglas Powell who has met him each morning since. The catarrh has now cleared away and Mr. Balfour was able to leave his bed for some hours on Tuesday, Feb. 9th. There is every hope that the Premier will be able to go away from London for a change of air at the end of the present week.

LOCAL ANÆSTHESIA PRODUCED BY THE INJECTION OF WATER.

IN recent years operations have been performed under anæsthesia produced by injecting weak solutions of cocaine into the skin and subcutaneous tissue (infiltration anæsthesia). Schleich, who developed this method, asserted that the injection of water produced temporary anæsthesia but was painful. In the *New York Medical Journal* of Jan. 23rd Dr. Samuel Gant states that he has found the injection of water a most satisfactory anæsthetic in operations on the rectum, a region notoriously sensitive. It occurred to him to try this method on noticing that solutions of cocaine were practically inert when distension failed in consequence of the escape of the fluid through an ulcer or sinus. He began experiments in September, 1901, and recently has so improved the technique that he uses the method to the exclusion of general and medicinal local anæsthesia in a large majority of his operations on the rectum, such as those for the radical cure of fissure, hæmorrhoids, fistula, and prolapsus ani, excision of perineal cysts, sacral dermoids, and lipomata of the buttocks, and removal of foreign bodies beneath the skin and mucosa. The method is very simple. Sterile water and a sterilised hypodermic syringe with a long fine sharp needle are alone required. The temperature of the water is unimportant but warm water is preferable, as it causes the least discomfort. Saline solution does not appear to have any advantages. A fold of skin at one end of the line of incision is caught between the thumb and forefinger and compressed for a few seconds, which diminishes and often prevents the momentary pain caused by the first injection. The needle is quickly introduced between the layers of the skin and a few drops of water are slowly injected. A small localised distension, not unlike a blister, should be produced with immediate anæsthesia of the skin at this point. The needle is then inserted further and further along the line of the incision to be made, and the water is gradually injected, taking care not to go entirely through the skin. When the syringe is emptied it is refilled and the needle is re-introduced within the anæsthetised area. The injections are repeated until the whole line of the incision is distended. The needle is then plunged through this distended line and subcutaneous injections are rapidly made until a firm whitish ridge about as wide and thick as the index finger is produced. The deep injections may cause temporary discomfort which is due to the rapid distension of the subcutaneous tissues. If the procedure has been properly carried out the skin and subcutaneous tissue can be now incised without pain in almost every case. To remove the clot in cases of thrombosed external hæmorrhoids the injection need be made only between the layers of overlying skin. In excising external hæmorrhoids both the skin and the tumour should be distended tightly. Internal hæmorrhoids can be anæsthetised within 30 seconds by injecting into the centre sufficient water to turn them white. They can then be painlessly removed by excision, ligature, or clamp and cautery. In operations for fissure and fistula, which require division of the sphincter, the skin and subcutaneous tissue are distended up to the anal margin and finally injections are made into the mucosa, submucosa, external, and, if necessary, internal sphincter, until sufficient pressure is exerted on the nerve endings to abolish sensibility. The injection should be made slowly; rapid distension of this sensitive region may produce considerable discomfort. Ischio rectal abscess if small may be incised after injecting the overlying skin, but Dr. Gant does not advocate the method for deep abscesses in which extensive cutting may be necessary or for other deep operations. The method possesses the great advantages of simplicity and freedom from risk of toxic effects which may occur with even weak solutions of anæsthetic drugs.

THE CENTRAL MIDWIVES BOARD AND WORKHOUSE NURSING.

THE Local Government Board appears to have taken up a position decidedly open to criticism as regards the qualification of midwives in workhouses. Section E of the rules of the Central Midwives Board which were approved by the Privy Council in August last and a copy of which appears in our issue of August 22nd, 1903, p. 555, expounds an elaborate scheme for "regulating, supervising, and restricting within due limits the practice of midwives." With the details of this scheme in so far as it insists upon the necessity for care and cleanliness on the part of the midwife we have no fault to find but its beneficial effects are nullified to a great extent by the extraordinary provision which concludes the Section. In Article 21 it is laid down that "nothing in this Section (E) shall apply to certified midwives exercising their calling in hospitals, workhouses, or Poor-law infirmaries under the supervision of a duly appointed medical officer." If this paragraph means anything at all it means that a workhouse midwife may practically be as indifferent to hygienic principles as she pleases, for as anybody with experience of workhouses can testify the amount of restraint which the "duly appointed" but usually non-resident medical officer can exercise upon her is very small. If, further, the midwife has received her certificate under Section D 4 of the rules as "having been in *bonâ fide* practice as a midwife for 12 months previous to July 31st, 1902," she will be able to add to such indifference some of those quaint observances which have in past years done so much to maintain the rate of infant mortality. "Do you think that to wipe a newborn baby's eyes with the corner of a coarse dirty sheet is the proper way for a midwife to work?" Thus asks a correspondent in a nursing journal in reference to a practice met with in a workhouse. We, at any rate, do not think so; on the contrary, it seems to us that if there is any place where sanitary precautions are urgently called for it is in the labour ward of a workhouse. Hither drift the victims of venereal disease and here, as nowhere else, are the sins of the fathers visited on the children between whom and maybe blindness or death stands the care of the attendant nurse. In the matter of pauperism we are no sentimentalists but the children of the poor are a national asset and even the Local Government Board might be expected to be interested in seeing that such children do not, through neglect or incompetence, become a charge upon, instead of a support to, the State. We refer thus particularly to the Local Government Board because it appears from letters which have passed between the Workhouse Infirmary Nursing Association and the Central

Midwives Board that the rule to which we take exception was inserted at the express instance of the Local Government Board. As a consequence of this interference it was decided at a meeting of the Central Midwives Board held on Dec. 17th to postpone for the present all applications from teachers in Poor law institutions who sought recognition under Section C of the rules. Thus a new obstacle is raised to the improvement of the status of Poor-law nurses and fresh discouragement is given to those who have been so long and so earnestly struggling for reform in workhouse administration.

THE SWEETNESS OF WINE.

IT is not always correct to attribute the sweetness of a wine to sugar, it may be due to glycerine or to the formation as age is acquired of sweetly-tasting ethers. The presence of glycerine in wines is frequently overlooked and yet this sweet body is always present but in varying amount according to the activity of the yeast concerned in the production of the wine. Sometimes the proportion of glycerine is as much as one-fourteenth of the volume of the alcohol. We have examined old wines which possessed a peculiar sweet flavour yet which on analysis showed a proportion of sugar quite inconsistent with the degree of sweet taste. Such a wine would be rejected by many because the sweetness would be regarded as an indication of an undesirable proportion of sugar. The sweetness which sometimes develops in old wines may be due to the disappearance of the acids, their sour taste masking the natural sweetness of the wine, while as the acid flavour diminishes by the separation of the acids in the form of "crust" the palate more readily recognises the sweetness of the glycerine. Possibly also as age is acquired the glycerine combines with the acids, forming new compounds which are sweet to the taste. The ethers of wine dissolved in alcohol are perceptibly sweet to the taste. In the same way old matured spirits possess quite a sweet flavour which, according to analysis, is due neither to glycerine nor to sugar but to subtle ether compounds. A molecular rearrangement takes place by which certain constituents which in their original state were nauseous when the spirit was raw and young become palatable. Sweetness is a physical property which belongs to other substances besides sugar, just as many things share a similar odour. At one time, of course, the word sugar was inseparable from sweetness and there are persons even now who when they find that a substance is sweet have only the one idea that it is due to sugar. Sweetness is probably only a matter of chemical structure and given the atoms in a certain position in the architecture of the molecule sweetness becomes a property of the substance. This property is not only represented in sugar, glycerine, saccharine, and certain compound ethers, but in quite a large number of organic compounds synthetically built up by the chemist.

YELLOW FEVER.

IN THE LANCET of August 8th, 1903, p. 389, we published a review on Dr. Scheube's third edition of "Die Krankheiten der Warmen Länder," in which the following passage occurred: "We are glad to find that Dr. Carlos Finlay is mentioned as being the first to draw attention to the mosquito theory of yellow fever in 1881. This observer caused the mosquito to sting a yellow-fever patient and then to inoculate an individual previously free from the disease, with results showing infection in 22 out of 24 patients experimented on, the remaining two being lost sight of." We have since received a communication from Dr. Finlay in which he states that this proportion of successful inoculations has not been reached. He forwards a pamphlet by Dr. T. V. Coronado, entitled "Dr. Carlos J. Finlay and his Theory," in which it is shown that out of 104 non-immunes whom Dr. Finlay and Dr. Delgado inoculated in the course of 20 years only 17 showed any perceptible pathogenic reaction within the 25 days following their inoculation. Dr. Finlay considers that "the only practical inference which can be drawn from these inoculations lies in the fact that such a large proportion of the inoculated subjects never suffered thereafter from any form of yellow fever during the subsequent years of their residence in Havana and that only five of the 104 died afterwards from yellow fever."

THE RESPONSIBILITY OF SUICIDES.

BENTHAM, writing in the earlier half of the nineteenth century complained that juries were constantly guilty of perjury when they declared a suicide to have been *non compos* at the time of his decease. The recent verdict upon Whitaker Wright would have seemed to the great jurist to mark a return to ancient candour, however much the announcement that a man had a motive for suicide and died in his senses may startle people to-day. The verdict of the jury and the coroner's remarks at the inquest on the body of Whitaker Wright should, indeed, serve as a reminder that the law does not necessarily regard suicide as the result of insanity, and that even where it seems to admit insanity it isolates it in a manner quite contrary to scientific ideas of causation. In cases, for instance, where suicide has closely followed the making of a will, the law has repeatedly refused to invalidate the testament because the testator took his own life shortly after writing it. The notion that a man is out of his senses when he commits suicide really dates from the day when the Church insisted that suicides, as persons guilty of self-murder, should be buried with the utmost ignominy. Lay jurymen in those days, to save their fellow creatures' bodies from disgrace, preferred to suppose that a suicide was insane at the time of death and therefore irresponsible. The plea of insanity in early times was frankly put forward as a legal fiction, actuated by kindness, and as such was probably freely accepted by individual priests. It is difficult to say exactly when what now seems to be a firmly rooted belief began to prevail that a suicide is out of his senses at the time when he puts an end to himself. In the eighteenth century a connexion between abnormal mental conditions and suicide appears gradually to have arisen, and in 1788 "self destruction" and "phrenzy" occur in the same book-title as though the one connoted the other. In 1809 Dr. William Rowley in his "Madness and Suicide," traced *felo de se* to lunacy and the latter often to merely physical irritations.

THE SYMPTOMS OF TUMOUR OF THE PITUITARY BODY.

THE subject of tumours of the pituitary body has lately received much attention in neurological medicine and it is now known not only that mental torpor and somnolence result from lesions of that organ but that characteristic nutritive changes in the osseous system allied to acromegaly and gigantism may be the outcome of disease of the pituitary body in youth or early adult life. In the *Revue Neurologique* of Dec. 30th, 1903, Dr. R. Cestan and Dr. Halberstadt publish an account of a case of pituitary tumour which throws light on some obscure points in the pathology of this affection. The patient was a man, aged 60 years, who had suffered for some time from symptoms of epileptic vertigo, progessive enfeeblement of memory and of intelligence, headache, and marked somnolence interrupted by occasional attacks of agitation. He was regarded as a case of premature senile dementia and was placed in an asylum. He remained in a state of apathy and somnolence and eventually died after a series of attacks of dyspnœa.

There were no acromegalic or osteo-hypertrophic changes but there was marked adiposity. The necropsy showed the presence of a tumour of the pituitary body "of the size of a small nut," vascular, cystic in character, and practically limited to the sella Turcica. It showed a small prolongation passing upwards into the third ventricle. It was a cystic adenoma and in its histological character presented features identical with those occurring in a case of gigantism to which reference has been made in THE LANCET.[1] Attention is drawn by Dr. Cestan and Dr. Halberstadt to two points of interest in the present case—viz., first, the absence of skeletal changes and, secondly, the presence of mental changes, such as apathy, enfeeblement of memory and of intelligence, and somnolence. Such mental changes have been noted in cases of pituitary tumour by Woolcombe,[2] Fröhlich, and Schuster (1902). The last-mentioned writer states in a monograph on the subject of cerebral tumours accompanied by psychical disturbance that out of a total of 775 such cases 61 were due to tumour of the pituitary body. Somnolence as a marked feature has been noted by Soca (1898), Schuster, and others. To reconcile the view that osteogenetic changes (acromegaly and gigantism) may occur in some cases of pituitary tumour while absent in others Dr. Cestan and Dr. Halberstadt suggest that when pituitary tumours or lesions appear in infancy they affect the nutrition of the osseous tissues and produced gigantism, that when they occur in early adult life the result is acromegaly, and, finally, that when the affection supervenes in middle or old age, after the osseous and other tissues of the body have attained the maximum of growth, the result is a preponderance of the mental symptoms of apathy and somnolence combined with obesity, as in the case to which reference is made above.

POOR-LAW MEDICAL OFFICERS AND SUPERANNUATION.

A MATTER affecting the interests of medical men concerned in the administration of the lunacy law has just been dealt with by the Local Government Board and although we regret the decision come to we note incidentally that it bears out entirely the opinion expressed recently in these columns as to the position of workhouse medical officers in regard to fees for certifying pauper lunatics. On the superannuation of Mr. W. Buchanan, late medical officer to the Medway union workhouse, the guardians of that union resolved to grant him an allowance based upon the fees which he had received for the examination of lunatics during the past five years. The district auditor disallowed the payments and surcharged the guardians who authorised them with the amount. An appeal to the Local Government Board resulted in a confirmation of the auditor's decision, the following reasons being given for the attitude adopted. "It forms no part of the duty of a medical officer of a workhouse to make the examinations to which the auditor refers and it is open to the justices, whatever their practice may be, to call in any medical practitioner for the purpose. Consequently the medical officer of a workhouse seems to be in the same position as any other medical man and the fees paid to him under the Lunacy Act, 1890, by order of the justices are not paid to him in his capacity as medical officer of the workhouse. Hence the Board are of opinion that the fees in question cannot be regarded as emoluments of Dr. Buchanan's office and should not have been taken into consideration in calculating the amount of his superannuation allowance." In another part of the letter the same principle is enunciated in these words: "Although the guardians have passed a resolution that Dr. Buchanan should examine all lunatics, the power to call in a medical man rested with the justices and the resolution of the guardians was of no legal effect." It will clearly be advisable in future for workhouse medical officers on accepting appointments to have their position in regard to emoluments properly defined. In some cases the fees for certifying lunatics constitute quite a large proportion of the salary, so that the amount at stake may be considerable.

[1] THE LANCET, March 14th, 1903, p. 747.
[2] Brit. Med. Jour., June 23rd, 1894, p. 1361.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE following lectures for the present year will be delivered at the Royal College of Physicians of London, Pall Mall East, on the dates named below at 5 P.M. The Milroy lectures will be delivered by Dr. W. Williams on February 25th and March 1st and 3rd, the subject being Deaths in Childbed, a Preventable Mortality. The Goulstonian lectures will be delivered by Dr. R. Hutchison on March 8th, 10th, and 15th, the subject being Some Disorders of the Blood and Blood-forming Organs in Early Life. The Lumleian lectures will be delivered by Dr. F. Taylor on March 17th, 22nd, and 24th, the subject being Some Disorders of the Spleen.

A CASE OF CHRONIC PANCREATITIS.

MOST recent writers on diseases of the pancreas have entered a plea for the more careful observation of the clinical phenomena of such cases and more regular and systematic examination of the pancreas at necropsies in order to furnish workable data for the filling up of the numerous gaps in our knowledge of the normal and pathological conditions of this important organ. Dr. Ferdinand Ehler of Brünn has carefully recorded a case of chronic indurative pancreatitis in the *Wiener Klinische Wochenschrift*, No. 51, 1903, which presents several features of interest from the clinical and pathological standpoints. The patient was a woman, aged 56 years, who with the exception of a few slight gastric attacks had enjoyed good health until five months before going to hospital, when she suffered from severe lumbar pain which, however, soon ceased so that she was able to return to her work. Four months later she had a recurrence of these pains, more severe in character, and radiating to the abdomen, rapidly followed by an intense jaundice. There was no history of syphilis or alcoholism. On admission to hospital she was described as a cachectic, emaciated woman of apathetic expression and olive-green complexion. The pulse was irregular, weak, and its rate was 60 per minute. The abdomen was slightly distended but not rigid or tender and there was no ascites. A tumour of the size of a goose's egg was felt beneath the right costal margin, presenting the characters of a distended gall-bladder. The liver was moderately enlarged, its edge being felt below the costal margin. The spleen was normal in size. The bowels were opened once or twice daily, the motions being of thin consistence and free from bile pigment. The urine was dark, bile-stained, and free from albumin and sugar even after the administration of milk sugar. The temperature was subnormal, ranging between 36° and 36·5° C. The alternative diagnoses of gall-stones or of carcinoma involving the bile-ducts were made and laparotomy was performed, the distended gall-bladder being found and opened, but no gall-stones were discovered. On deep palpation towards the left side a hard tumour could be felt which was regarded as carcinoma of the pancreas. The patient died four days later from pneumonia and cardiac failure. At the necropsy no carcinoma was found but there was a condition of chronic indurative pancreatitis; there was a retention cyst of the size of the fist in the tail of the organ filled with

turbid fluid of chocolate colour, the rest of the parenchyma being markedly indurated and permeated by fibrous bands. The common bile-duct was compressed and obstructed below and dilated above the obstruction. The liver was enlarged but showed no definite pathological change. The stomach was slightly dilated but its mucous membrane presented no macroscopic alterations. There were some fibrous myocarditis and a recent croupous pneumonia. Microscopically the pancreas showed marked overgrowth of fibrous tissue, apparently starting around the vessels and small ducts and thence invading the parenchyma of the organ. The interest in the case, considered pathologically, is that it was apparently primary and not the result of syphilis, alcoholism, or gall-stone obstruction, as these cases often are, and Dr. Ehle was inclined to regard this case as originating from a vascular change in the gland of the nature of arterio-sclerosis and referred in support of this to the fibrous condition of the myocardium (although no atheromatous changes were found in the aorta) and to the condition of the vessels of the pancreas, which were distinctly thickened. The interest from the clinical standpoint is that this case supports Courvoisier's dictum that jaundice in association with distended gall-bladder is usually due to obstruction of the common duct from some other cause than gall-stones.

THE RESUSCITATION OF DR. A. DARIER.

THERE was once an American editor who received a cal from an indignant gentleman whose death he had chronicled in his paper. The indignant gentleman, producing himself as proof of his words, demanded that a statement should be made in the paper that the editor was at fault. To this the editor replied that in his paper no mistakes were ever made, adding that, if they were, they were never acknowledged. After some argument, during which the editorially deceased person was able to show that he had a real grievance, the situation was met by the editor who, repeating the impossibility of making a public declaration of error, added that he would publish his visitor's name in the next list of births. It has been brought to our attention that in a summary of the ophthalmological work of the year 1903 we referred to Dr. A. Darier, joint-editor of *La Clinique Ophthalmologique*, as deceased. This, we are very glad to say, was a mistake, and we admit it with none of the reluctance to say *peccavi* that was shown by our American colleague in the story. We resuscitate Dr. Darier in a conspicuous part of THE LANCET and not in the birth column. We regret not to have made this *amende* to him sooner, but no exact reference was given to the place in our columns where the slip had occurred, and until now we were unable to find that we had cut off the well known French ophthalmologist in his prime. We trust that he has not been seriously inconvenienced.

THE INTERNATIONAL CONGRESS FOR SCHOOL HYGIENE.

THE first international congress for school hygiene will be held at Nuremberg from April 4th to 9th and in connexion with the congress there will be an exhibition of objects referring to school hygiene. Much interest has been taken in the announcement of this exhibition and the committee therefore intends to open it some days before the commencement of the congress and to keep it open for some days after the congress has closed. All objects referring to school hygiene may be exhibited, such as plans and models of school houses, treatises on the principles of school-house building, treatises on the education of children both at school and at home, school furniture, books, drawing instruments, and apparatus for the medical examination of children and for their physical education, such as gymnastic appliances and the like. The exhibition should, we think, prove of great interest and as an example of what can be done with old-time material we suggest that "our Colleges of Westminster, Winchester, and Eton" be asked to send models of some of their older schoolrooms. Many of these are such as would cause a zealous School Board member to faint from horror and yet the institutions possessing them turn out boys who become men of great value to the State.

TUBERCULOSIS IN DAIRY COWS.

WE have received a copy of a pamphlet with the above title written by Dr. J. Wright Mason, medical officer of health of Hull, and Mr. James McPhail, M.R.C.V.S., chief meat inspector. The writers point out that municipal and local authorities have obtained stringent powers to deal with tuberculosis amongst dairy cows. They have therefore published this pamphlet to give information couched in simple terms to persons in charge of dairy cows and to those who are directly interested in such legislation. They have succeeded well in this laudable object and have described in language devoid as far as possible of technical terms the symptoms which may be observed in cows suffering either from acute or chronic tuberculosis. The dangers that are attendant on drinking milk from a tuberculous cow when the udder is affected are strongly insisted on. The symptoms of this affection are indicated and although the dairyman cannot be expected to make a diagnosis of tuberculosis, yet when he finds the parts in the condition described it is undoubtedly his duty to draw the attention of his employer or the veterinary surgeon to the diseased animal.

RUPTURE OF THE TENDON OF THE EXTENSOR LONGUS POLLICIS.

IN the *Boston Medical and Surgical Journal* of Dec. 10th, 1903, Dr. C. L. Scudder and Dr. W. E. Paul have described a very rare injury—rupture of the tendon of the extensor longus pollicis. A woman, aged 58 years, fell and struck the back of her left hand on the edge of a stone step. There was tenderness near the proximal end of the first metacarpal bone and in dressing herself the patient felt pain at that place. Three weeks later, when the hand felt practically well, on attempting to take hold of a chair she found that the left thumb could not be used and remained flexed in the palm. Examination on the next day showed that the proximal phalanx of the thumb could not be extended, so that in grasping movements the thumb was closed upon by the flexed fingers. Feeble extension of the distal phalanx was readily performed. All movements of the metacarpal bone were executed but the range of extension and abduction was diminished. The only indication of the site of the rupture was the patient's assertion that there was some tenderness on using the hand near the proximal end of the dorsum of the metacarpal bone. Rupture of the tendon of the extensor brevis pollicis near its insertion was thought probable. Six weeks later an operation was performed. The tendon of the extensor longus pollicis was found to be ruptured near the proximal end of the metacarpal bone. The sheath was intact. Careful dissection along the wrist was necessary in order to find the retracted muscular belly, which was six or seven centimetres from the distal end of the torn tendon. Approximation of the ends of the ruptured tendon was impracticable. Tendon transplantation was therefore performed. The tendon of the extensor carpi radialis longior was partially cut on its radial aspect and split along its length for about three centimetres. The distal fragment of the tendon of the extensor pollicis was cut transversely to secure a smooth surface. The tendons thus prepared were united by three

fine silk sutures. Eight months later grasping movements could be performed with opposition of the thumb. The range of extension of the terminal phalanx was about one-third of normal and of the proximal phalanx about two-thirds but the patient was still improving. Dr. Scudder and Dr. Paul explain the injury as follows. The fall partially severed the tendon of the extensor longus pollicis. Three weeks later rupture was completed by muscular effort. The loss of movement does not agree with the usual description of the action of the extensors of the thumb. The long extensor (extensor secundi internodii pollicis) was evidently the extensor of the first phalanx. Extension of the second phalanx appears to have been performed by the short extensor (extensor primi internodii pollicis) and the abductor pollicis. A possible explanation is that the insertions of the extensor tendons were abnormal. We should like to know the evidence on which the operator identified the tendon as that of the extensor longus pollicis. May not the tendons of both extensors of the thumb have been injured? The operation performed in this case seems to us open to the objection that the function of the long extensor was not restored.

UNIVERSITY OF OXFORD: THE PHILIP WALKER STUDENTSHIP IN PATHOLOGY.

A STUDENTSHIP in pathology has just been founded in the University of Oxford by Mr. P. F. Walker for the furtherance of original research in pathology. The studentship is to be of the annual value of £200 and may be increased, if at any time the income of the endowment fund exceeds £200, to any sum not exceeding £300. Prizes or grants may also be made from the fund in similar circumstances to persons engaged in pathological research. The studentship is not confined to members of the University and is open without limitation of age or sex. It is to be awarded by the managers of the fund upon the report of the reader in pathology on the respective qualifications of the candidates and is tenable for three years from election, with a possible extension on the recommendation of the reader for a further period of two years. During his tenure of the studentship the student is prohibited from following any business or profession or engaging in any educational or other work which in the opinion of the managers of the fund would interfere with his original inquiries. The place and nature of the studies of the student are to be subject to the approval of the reader in pathology, provided that the student shall be bound to pursue his studies within the University during at least three terms of his tenure of the studentship, unless this requirement be dispensed with for special reasons. The full details of the Decree of Convocation and the regulations governing the studentship are published in the *Oxford University Gazette* of Feb. 2nd (University Press, 116, High-street, Oxford. Price 3*d*.).

THE medical officer of health of the Cape Colony states that for the week ending Jan. 16th two cases of plague were discovered in the Colony—namely, a coloured male found dead on Jan. 11th and a native male who died on Jan. 14th, both at Port Elizabeth. Dead rats were found at Port Elizabeth, East London, and Knysna, but of 304 rats examined in the Cape Town and Harbour Board area none was affected with plague. As regards the Mauritius a telegram from the acting governor received at the Colonial Office on Feb. 5th states that for the week ending Feb. 4th there were 17 cases of plague and 14 deaths from the disease.

THE anniversary dinner of the Medical Society of London will be held at the Whitehall Rooms of the Hôtel Métropole on Tuesday, March 8th, at 7.30 P.M. Communications should be made to the honorary secretaries, Dr. H. A. Caley and Mr. H. J. Waring, at the rooms of the society, 11, Chandos-street, Cavendish-square, W.

THEIR Majesties the King and Queen, accompanied by Princess Victoria, have announced their gracious intention to visit the University of Cambridge on Tuesday, March 1st, to open the new schools for medicine, law, and botany and the Sedgwick Museum where the King will unveil a statue of Professor Sedgwick.

Sir John Batty Tuke has obtained the eighteenth place in the ballot for new Bills which has recently been held. He has therefore put down the Revaccination Bill to which we referred in THE LANCET of Feb. 6th.

Dr. Henry Corby, professor of midwifery, Queen's College, Cork, has been appointed High Sheriff of the city of Cork by his Excellency the Lord Lieutenant of Ireland.

ELEVENTH ANNUAL REPORT (FOR 1902 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

II.[1]

IN that section of his report which treats of the causes of mortality Mr. Shirley Murphy gives an interesting table which contrasts London mortality in 1902 with the average in the preceding decade under certain of the more important headings in the official list of causes of death. The table indicates that disregarding the mortality due to homicide and suicide there are only three diseases—namely, small-pox, cancer, and premature birth—that in the year 1902 were more fatal than usual. Taking all causes together there was a diminution of no less than 6733 deaths in the administrative county of London in the year mentioned, as compared with the average numbers in the previous ten years.

Before proceeding to deal with the incidence of the principal epidemic diseases Mr. Shirley Murphy gives a table which shows the mortality in each of the metropolitan boroughs from the more prevalent diseases which, though not classed as epidemic, nevertheless destroy a large number of lives every year. The numbers upon which the rates in this table are based have been fully corrected for mortality in public institutions, such as workhouses hospitals, and lunatic asylums, whilst in the case of phthisis and of cancer they have been further corrected for age and sex differences of population. The rates given may therefore be regarded as thoroughly trustworthy and may be safely used for comparing the mortality of the several boroughs from each of the included diseases or groups of disease.

In the administrative county as a whole cancer, including therein carcinoma, sarcoma, and other forms of malignant disease, was fatal in 1902 to 93 in each 100,000 of the population. The City of London showed the highest rate—viz., 128 per 100,000—next came Shoreditch with 115, and after these there were 14 other metropolitan boroughs in which the rate exceeded the average. The boroughs of Kensington and Stoke-Newington experienced the lowest rate—viz., 76 per 100,000—and Stepney the next lowest—viz., 79. Phthisis shows a decided tendency to invade with the greatest severity those districts which are sanitarily the most unfortunate, and in this regard its death-rate roughly follows the lead of the death-rate from all causes. Thus, the table indicates that in 1902 the mortality from phthisis, which was equal to a mean rate of 160 per 100,000 in the metropolis generally, was highest (265) in Holborn and next highest (262) in Southwark. On reference to the last column in the table it will be seen that both these boroughs were amongst the areas

[1] No. I. was published in THE LANCET of Feb. 6th, 1904, p. 385.

with very high general rates of mortality. In addition to the above there were nine other boroughs wherein the phthisis-rate exceeded the county average. On the other hand, the metropolitan borough of Hampstead, after making allowance for the deaths in its consumption hospital, experienced the *lowest* mortality from phthisis, which did not exceed 84 per 100,000 living, or less than one-third of the Holborn rate. It is interesting to notice that Hampstead experienced likewise a lower rate of mortality from all causes than any other borough in the county. Pneumonia is also shown by this table to vary greatly in fatality and to invade most severely the least healthy districts. Thus the borough of Hampstead suffered the lowest mortality from this disease—viz., a rate of 75 per 100,000—whilst at the other end of the list came Southwark and Bermondsey, in both of which boroughs the rate was more than thrice as high as it was in Hampstead. The column headed "Other Respiratory Diseases" is necessarily an indefinite one, including, as it almost certainly must, so many conditions of a tuberculous character. The highest mortality from diseases in this group—viz., 315 per 100,000—was returned from Finsbury and the lowest—106—from Hampstead.

Taking together the principal epidemic diseases—namely, small-pox, measles, scarlet fever, diphtheria, whooping-cough, enteric fever, and diarrhœa—we find that in 1902 they were less fatal than the decennial average by 0·44 per 1000 of the population. The death-rate in London, which was 2·23 per 1000, was higher than that of any other great English town except Liverpool, Birmingham, Bristol, Hull, Salford, and West Ham. As compared with the mortality in the principal foreign and continental cities the mortality from the first six of the epidemic diseases above mentioned was higher in London than in any other city in the list except St. Petersburg.

The event of chief sanitary importance during the year in London was the culmination and decline of the small-pox epidemic, which had increased in the later months of 1901 and continued to increase during the first three months of 1902, attaining a maximum in March, after which there was a decline until the beginning of September, subsequently to which the number of cases notified in any week did not exceed eight. The notification of small-pox was first made compulsory in the metropolis in the year 1890, but at no period since that date has the incidence of the disease approached that of the year now under notice.

Conformably with previous experience the London epidemic of 1900–02 originated in an imported case. Mr. Shirley Murphy tells us that in the course of this period small-pox was frequently introduced amongst us from abroad, especially from Paris, in which city 211 deaths occurred in 1900, 417 in the following year, and 90 in the year 1902. In August, 1901, two women in St. Pancras were attacked; their illness had been preceded a fortnight earlier by that of a sister who was a sorter of dirty linen from West End hotels and lodging-houses. This girl's illness had been regarded as chicken-pox. Upon this followed another case in the same house and four cases in the house next door. The illness of these four persons followed that of a girl who died and whose illness had also been regarded as chicken-pox. The laundry girl's attack was apparently the first of the series. From this centre the disease spread throughout the immediate neighbourhood. The next area of attack was in Holborn, where the disease became prevalent in the month of October, especially among the dwellers in common lodging-houses.

About this time a woman who frequented places of this sort in Holborn and Westminster was removed to the Endell-street Infirmary suffering from small-pox. She, however, escaped from the wards and wandered about the district for four days visiting nearly every public-house within her reach. We are not surprised to learn that from every public-house into which she is known to have entered one or more patients were removed suffering from small-pox. The disease continued to spread among this class of the population, the common lodging-houses of Holborn, St. Pancras, Westminster, Stepney, and Southwark being especially affected in the last quarter of the year 1901. By this time, Mr. Shirley Murphy tells us, cases of small pox had occurred in every district of London and in St. Pancras (where the disease first assumed serious proportions), in Westminster, and in Holborn the number of cases had either reached or nearly approached the maximum attained during the epidemic. The incidence of the disease in each of the metropolitan boroughs during the whole period covered by the epidemic is well shown by a diagram on p. 29, which is based on the number of small-pox attacks notified in each consecutive week, and in the letterpress Mr. Shirley Murphy has given a detailed and highly instructive account of the spread of the disease from first to last.

It is satisfactory to note that practically all the cases of small-pox that were notified to the sanitary authorities were promptly removed to hospital by the officers of the Metropolitan Asylums Board. In a few instances the nature of the malady was not recognised until the sufferer was found to be dying from a malignant form of the disease and in certain other cases the nature of the disease was only affirmed after recovery. Mr. Shirley Murphy speaks in appreciative terms of the services rendered by the Metropolitan Asylums Board in dealing with epidemic small-pox in London. "In no case," he says, "was failure reported to remove to hospital patients suffering from the disease for whose removal application was made." As regards administrative measures for limiting the spread of small-pox we learn that quite early in the epidemic cases of small-pox were mistaken for chicken-pox, because when the graver disease first appeared in London many practitioners of medicine were unfamiliar with its appearance. Consequently the notification of chicken-pox became compulsory in St. Pancras and certain other districts in the autumn of 1901 and in the beginning of 1902 the County Council, with the consent of the Local Government Board, made an order extending this provision to the whole of London. It is a significant fact that within less than three months of the Council's order coming into effect the epidemic began to decline. Nevertheless, the notification of chicken-pox continued to be compulsory in London until January, 1903, by which time the epidemic may be said to have subsided completely. Moreover, the Council in the early part of 1902 appointed medical men possessing expert knowledge of small-pox to consult with medical practitioners who desired a further opinion on suspected cases of the disease. In the year 1902 the medical practitioners of London availed themselves of this arrangement in 1153 instances. Passing from the consideration of attacks to that of mortality by small-pox, Mr. Shirley Murphy proceeds to compare the death rate from that disease in London with the rates in the chief towns of England and of the continent. From tables which he has prepared we find that in the period 1892–1901 the London death-rate was exceeded by the death-rates of Liverpool, Birmingham, Bristol, Bradford, Hull, and West Ham, while in 1902 it was considerably higher than the rates of any of these towns except the town last mentioned. As regards the continental towns we learn that whereas the London death-rate in the decennial period just mentioned exceeded that of all the large continental towns except Paris, Brussels, St. Petersburg, Vienna, and New York, in 1902 the London rate was considerably in excess of that of any of these towns.

(To be continued.)

THE CENTRAL MIDWIVES BOARD AND THE TRAINING OF MIDWIVES.

THE following correspondence between the Master of the Rotunda Hospital, Dublin, and the Secretary of the Central Midwives Board has been sent to us for publication.

[COPY.]

Rotunda Hospital, Dublin, 25th January, 1904.

DEAR SIR,—I shall feel much obliged by your bringing the following matter before your Board, as it is obviously of such importance that a definite pronouncement should be obtained as to the position our midwifery nurses trained in the Rotunda Hospital will occupy in respect to the State examination to be held under the direction of the Central Midwives Board.

The training of our midwives is strict and full, including everything that is requisite for making a good nurse. They reside for a period of six months in the hospital; they watch the progress of over 200 confinements—of these they personally conduct at least two; they have to make not less than ten vaginal examinations; they palpate many scores of abdomens; they attend the lying-in woman from the time of her admission to the hospital to her discharge on the eighth day; each nurse takes entire charge of three lying-in women daily, with their respective children during the puerperium; they take records of temperatures and pulses under the supervision of the master of the hospital and the assistant masters; they receive constant instruction in the art of midwifery, are systematically trained in asepsis and

antisepsis; they pass catheters, give enemas, are taught to distinguish between normal and abnormal labours, and finally do not receive our certificate until a stringent examination has been passed.

The rules that at present seem to preclude them from qualifying are as follows:—

Form III.—A woman must have "attended and watched the progress of not fewer than 20 labours, making abdominal and vaginal examinations during the course of labour, and personally delivering the patient."

Form IV.—A woman has "to my satisfaction nursed 20 lying-in women during the ten days following labour."

It would be impossible for our resident nurses to follow the course of the puerperium for ten days, as Irish women will not remain in hospital for more than eight days. In this connexion it may be mentioned that the Scottish Universities and Conjoint Boards require a student to produce evidence that he has personally conducted 12 cases of labour or that he has taken out a three months' course in a recognised institution, in which case the personal conduction of six cases is sufficient. Durham University requires a student to have personally conducted 20 cases of labour or to have attended the indoor practice of a lying-in hospital for three months. Dublin University, London University, and the Royal University of Ireland compel a student to take a six months' course in a lying-in hospital, but they do not specify any necessary number of personal conductions and they refuse altogether to recognise instruction received or labours attended elsewhere than in a lying-in hospital.

I may summarise by saying that the licensing bodies and universities regard a six months' course of instruction in a recognised lying-in hospital as the ideal training in practical midwifery for a student; that some of them accept a three months' course with the addition of a small specified number of personal conductions; and that only those who do not require any proof of attendance at a recognised institution require even a medical student to personally conduct as many as 20 labours.

It will thus be seen that a course of six months' instruction in the internal department of a lying-in hospital is regarded as the ideal training for the medical student and as being much preferable to a longer course of instruction from a non-hospital practitioner, and that the reasons which render this course much better in the case of the medical student are still more cogent in the case of the midwife, who admittedly is best trained when trained in a hospital.

Taking all these facts into consideration and having regard to the undoubted spirit of the Bill which was framed in the interests of the lying-in patient, I trust that your Board will be able to accept our curriculum as an equivalent, or to make such exception or modification in the present rule as will enable our nurses to qualify for the State examination in midwifery.

I remain, yours faithfully,
E. HASTINGS TWEEDY, Master, Rotunda Hospital.

To the Secretary, Central Midwives Board.

Central Midwives Board, 6, Suffolk-street, Pall Mall, London, S.W., 1st Feb., 1904.

DEAR SIR,—Referring to your letter of the 25th January, I have to inform you that the subject raised therein was taken into consideration by the Board at their meeting on the 28th ult. I am directed to point out that the rules were approved by the Privy Council on the 12th of August, 1903, for a period of three years, and to forward you a copy of the resolution, which, having regard to that fact, the Board passed unanimously.—I remain, yours faithfully,
G. W. DUNCAN, Secretary.

The Master of the Rotunda Hospital, Dublin.

Copy of a resolution moved and carried at the meeting of the Central Midwives Board held on Jan. 28th, 1904:

That having considered the letter addressed to them by the Master of the Rotunda Hospital the Board regret that the suggested alterations were not brought to their notice before the rules were sent to the Privy Council, as having been now approved by that body it is impossible for the Board to alter them.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on Feb. 2nd, Dr. T. S. CLOUSTON, the President, being in the chair.

James Taylor Grant, M.B., C.M., F.R.C.P. Edin.; Charles Cromhall Easterbrook, M.D., F.R.C.P. Edin.; Edwin Bramwell, M.B., C.M., F.R.C.P. Edin.; and John Malcolm Farquharson, M.B., C.M., F.R.C.P. Edin., were introduced and took their seats as Fellows of the College.

Stuart McDonald, M.B., C.M., M.R.C.P. Edin., Edinburgh, was admitted by ballot to the Fellowship of the College.

On a ballot the following candidates were admitted to the Membership of the College after examination: William Leslie Mackenzie, M.D. Aberd., Edinburgh; Clarence Brian Dobell, M.B., C.M. Edin., Edinburgh; and Francis Lionel Provis, L.R.C.P. Lond., M.R.C.S. Eng., F.R.C.S. Edin., London.

The REGISTRAR reported that since the last quarterly meeting 39 persons had obtained the Licence of the College by examination.

It was announced that the Council had resolved to offer the Parkin prize for competition during the current year, the subject to be, in terms of the deed, "On the Curative Effects of Carbonic Acid Gas or other Forms of Carbon in Cholera, for Different Forms of Fever and other Diseases." Essays are to be received by the secretary up to Dec. 31st, 1904.

It was announced that Mr. J. Francis Mason, Woodstock, Oxfordshire, had intimated the continuance of his donation of £200 to the laboratory for the purpose of research on the ductless glands.

The SECRETARY announced that Dr. James William Beeman Hodsdon had been appointed as representative of the Royal College of Surgeons on the laboratory committee.

It was remitted to the Council to nominate delegates to the Congress of the Sanitary Institute to be held in Glasgow in July, 1904.

Looking Back.

FROM
THE LANCET, *SATURDAY*, FEB. 11, 1826.

REVIEW FROM THE WEST.[1]

Edinburgh Medical and Surgical Journal.

No. IX. January 1826

To be candid, then, we are weary of the perusal of cures and no-cures; of proposals teeming with hope, and designs carried into unsuccessful execution; of facts that are valuable only to the finders, and information that is useless to all except the original proprietors. We would seem to have at length arrived at that ultimate state of professional perfection, when the superabundance of material for the support of all sorts of opinions, on every possible subject, is rather an evil than an advantage—when, to extract good from this mischievous accumulation of miscellaneous matter has become an office of unprofitable perplexity. If every article in the Materia Medica, or out of it, which promised from its nature to produce salutary effects, has not already been exhibited in every variety of the same disease, we sincerely believe that this grand *experimentum crucis* of the efficacy of medicine is on the verge of completion. In what morbid affection has not Mr. Kirby given stramonium?—Mr. Abernethy, mercury?—not to talk of the thousands of imitators, who, adopting the same principle, take up some drug and exhibit it in every complaint, to ascertain in which it might be of any value, when a book or an essay generally terminates the experiment. It was, doubtless, a great oversight committed in the commencement of this voyage of discovery in search of an "Eldorado" of specifics, that no regular plan of operation was laid down which might prevent the confusion of indiscriminate pursuit and the repetition of similar results. Woe! to the critics, all was left to chance; the barks of the adventurers are tossed about by uncertain breezes, crossing each other's courses, and sometimes running each other down in the dark by fatal collision.[2]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8990 births and 5049 deaths were registered during the week ending Feb. 6th. The annual rate of mortality in these towns, which had been 19·0, 18·1, and 19·4 per 1000 in the three preceding weeks, declined again last week to 17·2 per 1000. In London the death rate was 17·4 per 1000, while it averaged 17·2 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·0 in Aston Manor, 6·4 in Hornsey, 7·4 in Tottenham, 7·5 in Walthamstow, 10·5 in Barrow-in-Furness, 10·7 in East Ham, 10·8 in Leyton, and 11·0 in King's Norton; the highest rates were 21·8 in Wolverhampton and in Burnley, 22·2 in Rhondda, 22·6 in Newport (Mon.), 22·9 in Merthyr Tydfil, 23·1 in Liverpool, 24·1 in Bury, and 26·6 in Wigan. The 5049 deaths in these towns last week included 412 which were referred to the principal infectious diseases, against 450, 427, and 497 in the three preceding weeks; of these 412 deaths 173 resulted from whooping-cough, 80 from

[1] A portion only has been transcribed.
[2] Editorial comments of THE LANCET.

measles, 54 from diarrhœa, 48 from diphtheria, 39 from scarlet fever, 17 from "fever" (principally enteric), and one from small-pox. In Croydon, Hornsey, Plymouth, Derby, Halifax, York, and in nine other smaller towns no death from any of the principal infectious diseases was registered; among the other towns they caused the highest death-rates in Handsworth (Staffs.), Warrington, Bury, Preston, Leeds, West Hartlepool, Gateshead, Merthyr Tydfil, and Swansea. The greatest proportional mortality from measles was recorded in Willesden, Preston, Rotherham, and Cardiff; from scarlet fever in Warrington, Oldham, and Merthyr Tydfil; from diphtheria in Merthyr Tydfil; from whooping-cough in Bootle, Warrington, Bolton, Rochdale, West Hartlepool, Gateshead, and Swansea; and from diarrhœa in West Bromwich. The mortality from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered last week in Newcastle-upon-Tyne, but not one in any other of the large towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums hospitals, which had been 26, 24, and 21 at the end of the three preceding weeks, had risen again to 25 at the end of last week; eight new cases were admitted during the week, against four, three, and four in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of last week was 1657, against 1660, 1677, and 1651 at the end of the three preceding weeks; 169 new cases were admitted during the week, against 195, 180, and 168 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 406, 353, and 429 in the three preceding weeks, declined again last week to 347, and were 32 above the number in the corresponding period of last year. The causes of 63, or 1·2 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Bolton, Salford, Bradford, Leeds, Newcastle-upon-Tyne, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Northampton, Liverpool, St. Helen's, Burnley, Preston, Sheffield, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·2, 19·8, and 18·4 per 1000 in the three preceding weeks, rose again to 18·5 per 1000 during the week ending Feb. 6th, and was 1·3 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 16 0 in Edinburgh and 17·5 in Glasgow and in Leith, to 23·1 in Perth and 23·3 in Dundee. The 611 deaths in these towns included 15 from whooping-cough, 11 from diarrhœa, seven from measles, three from small-pox, three from scarlet fever, three from diphtheria, and two from "fever." In all 44 deaths were referred to these principal infectious diseases last week, against 63, 54, and 62 in the three preceding weeks. These 44 deaths were equal to an annual rate of 1·3 per 1000, which was slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 15, 11, and 16 in the three preceding weeks, declined again last week to 15, of which nine occurred in Aberdeen, two in Glasgow, and two in Leith. The deaths from diarrhœa, which had been 13, 14, and 17 in the three preceding weeks, declined again to 11 last week, and included four in Aberdeen, three in Glasgow, and three in Edinburgh. The fatal cases of measles, which had been 23, 19, and 12 in the three preceding weeks, further declined last week to seven, of which six were registered in Glasgow. The deaths from small-pox, which had been five, two, and three in the three preceding weeks, were again three last week, and included two in Glasgow and one in Greenock. The deaths from scarlet fever, which had been one, one, and six in the three preceding weeks, declined again last week to three, of which two were recorded in Glasgow, where the three fatal cases of diphtheria occurred also. The deaths referred to diseases of the respiratory organs in these towns, which had been 198, 167, and 128 in the three preceding weeks, rose again to 129 last week but were slightly below the number in the corresponding period of last year. The causes of 17, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·8, 26·0, and 25·6 per 1000 in the three preceding weeks, increased again to 30·5 per 1000 during the week ending Feb. 6th. During the past four weeks the death-rate has averaged 27·9 per 1000, the rates during the same period being 18·3 in London and 16·8 in Edinburgh. The 222 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 36 over the number recorded in the preceding week and included 12 which were referred to the principal infectious diseases, against 10, eight, and 14 in the three preceding weeks; of these, nine resulted from whooping-cough, one from diphtheria, one from "fever," and one from diarrhœa, but not any from small-pox, measles, or scarlet fever. These 12 deaths were equal to an annual rate of 1·7 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 0·6 in Edinburgh. The fatal cases of whooping-cough, which had been five, five, and 11 in the three preceding weeks, declined again last week to nine. The 222 deaths in Dublin last week included 42 among children under one year of age and 73 among persons aged 60 years and upwards; the deaths both of infants and of elderly persons were considerably in excess of the respective numbers recorded in the preceding week. Eight inquest cases and seven deaths from violence were registered, and 77, or more than a third, of the deaths occurred in public institutions. The causes of 13, or nearly 6 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·1 per 1000 of the population, estimated to be 4,649,088 persons in the middle of the year. The rates in the three preceding months had been 6·8, 6·0, and 5·4 per 1000 respectively. The rates were considerably below the average in Kensington, Hammersmith, Chelsea, City of Westminster, Hampstead, and Stoke Newington; while they showed the largest excess in Hackney, Bethnal Green, Stepney, Poplar, Deptford, and Woolwich. The prevalence of small-pox last month showed a slight diminution as compared with that recorded in the preceding month; of the 17 cases notified during January, four belonged to Southwark, three to the City of Westminster, three to Lambeth, and two to Bethnal Green. The Metropolitan Asylums hospitals contained 21 small-pox patients at the end of last month, against 42, 40, and 26 at the end of the three preceding months; the weekly admissions averaged four, against ten, eight, and four in the three preceding months. Scarlet fever was rather more prevalent in January than in the preceding month; the greatest proportional prevalence of this disease was recorded in Paddington, the City of London, Stepney, Poplar, Bermondsey, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 1794, 1738, and 1606 at the end of the three preceding months, had risen again to 1626 at the end of last month; the weekly admissions averaged 182, against 210, 184, and 168 in the three preceding months. The prevalence of diphtheria showed no appreciable variation from that recorded in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hampstead, Bethnal Green, Stepney, Poplar, Bermondsey, and Woolwich. The Metropolitan Asylums hospitals contained 752 diphtheria patients at the end of January, against 753, 763, and 734 at the end of the three preceding months; the weekly admissions averaged 97, against 121, 109, and 104 in the three preceding months. The cases of enteric fever notified during December were less than one-half of the number in the preceding months; this disease was proportionally most prevalent in Hammersmith, Hampstead, Holborn, Finsbury, Stepney, Poplar, and Bermondsey. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 285, 286, and 246 at the end of the three preceding months, had further declined to 166 at the end of last month; the weekly admissions averaged 16, against 44, 45, and 30 in the three preceding months.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1904.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fever.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,649,084	17	819	528	—	131	1	23	298	—	1817	5·1	—	191	39	60	135	—	21	1	74	521	1·5	6488	18·2	131
West Districts.																										
Paddington	146,975	—	36	7	—	2	—	—	7	—	52	4·6	—	10	1	—	1	—	—	—	—	12	1·1	185	16·4	127
Kensington	179,236	—	23	11	—	3	—	—	9	—	46	3·3	—	17	—	2	3	—	1	—	2	25	1·8	249	18·1	133
Hammersmith	117,412	—	14	4	—	5	—	—	6	—	29	3·2	—	22	—	1	—	—	—	—	4	27	3·0	178	19·8	150
Fulham	152,482	—	29	19	—	5	—	—	11	—	64	5·5	—	11	—	3	1	—	—	—	3	18	1·5	184	15·7	139
Chelsea	74,329	—	9	4	—	2	—	—	1	—	16	2·8	—	6	2	—	—	—	—	—	1	9	1·6	102	17·9	172
City of Westminster	177,321	3	9	6	—	2	—	—	9	—	29	2·1	—	4	1	—	1	—	1	1	—	8	0·6	232	17·1	133
North Districts.																										
St. Marylebone	130,337	—	18	7	—	3	—	1	7	—	36	3·6	—	13	1	1	2	—	1	—	4	22	2·2	217	21·7	87
Hampstead	86,663	—	7	5	—	1	—	—	3	—	16	2·4	—	6	1	—	—	—	—	—	1	8	1·2	85	12·8	130
St. Pancras	235,926	—	44	29	—	8	—	1	15	—	97	5·4	—	2	3	7	7	—	2	—	2	23	1·3	377	20·8	141
Islington	341,044	1	65	40	—	3	—	5	18	—	132	5·0	—	4	4	1	8	—	1	—	3	21	0·8	441	16·9	97
Stoke Newington	82,445	—	8	1	—	—	—	—	3	—	12	3·0	—	—	2	—	3	—	—	—	—	5	1·2	66	16·4	141
Hackney	226,266	1	45	35	—	15	—	3	19	—	118	6·8	—	9	2	3	3	—	1	—	2	20	1·2	290	16·7	125
Central Districts.																										
Holborn	57,161	1	3	3	—	5	—	—	8	—	20	4·6	—	3	—	1	—	—	—	—	—	4	0·9	94	21·4	70
Finsbury	98,958	—	18	14	—	6	—	1	2	—	41	5·4	—	—	1	4	4	—	—	—	2	11	1·4	176	23·2	115
City of London	23,482	—	6	2	—	1	—	—	—	—	9	5·0	—	—	—	1	—	—	—	—	—	1	0·6	42	23·3	188
East Districts.																										
Shoreditch	117,033	—	21	7	—	—	—	1	11	—	40	4·5	—	8	2	2	5	—	—	—	1	18	2·0	198	22·1	187
Bethnal Green	130,207	2	23	41	—	2	—	—	14	—	82	8·2	—	6	1	3	7	—	—	—	2	19	1·9	215	21·5	157
Stepney	303,791	1	71	63	—	13	—	3	16	—	167	7·2	—	12	1	7	2	—	3	—	7	32	1·4	462	19·8	122
Poplar	169,905	1	40	29	—	10	—	2	14	—	96	7·4	—	1	2	3	10	—	2	—	3	21	1·6	270	20·7	131
South Districts.																										
Southwark	207,937	4	26	31	—	8	—	—	14	—	83	5·2	—	3	—	3	14	—	1	—	5	26	1·6	381	23·9	186
Bermondsey	129,397	—	29	15	—	7	—	1	15	—	67	6·7	—	3	1	—	9	—	1	—	5	19	1·9	226	22·8	180
Lambeth	310,359	3	45	22	—	9	—	—	15	—	94	3·9	—	15	1	1	12	—	1	—	6	36	1·5	414	17·4	132
Battersea	175,465	—	20	19	—	4	—	—	17	—	60	4·5	—	7	1	2	7	—	2	—	7	26	1·9	210	15·6	131
Wandsworth	267,586	—	44	33	—	6	1	1	19	—	104	5·3	—	20	4	3	9	—	2	—	5	43	2·2	308	15·6	114
Camberwell	268,384	—	42	21	—	5	—	1	23	—	92	4·5	—	7	1	1	8	—	2	—	1	20	1·0	324	15·7	108
Deptford	113,509	—	25	26	—	—	—	1	10	—	62	7·1	—	1	3	3	7	—	—	—	—	14	1·6	145	16·7	162
Greenwich	101,651	—	16	16	—	1	—	—	5	—	38	4·9	—	1	—	4	5	—	—	—	3	13	1·7	125	16·0	140
Lewisham	140,401	—	30	11	—	1	—	2	2	—	46	4·3	—	—	1	3	2	—	—	—	4	10	0·9	153	14·2	109
Woolwich...	123,416	—	53	7	—	2	—	—	5	—	67	1	—	—	3	1	5	—	—	—	1	10	1·1	139	14·7	109
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Erysipelas was proportionally most prevalent in Hackney, Holborn, Shoreditch, Bethnal Green, Bermondsey, Battersea, and Deptford. The 23 cases of puerperal fever notified during the month included five in Islington, three in Hackney, three in Stepney, two in Poplar, and two in Lewisham.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending Jan. 30th the deaths of 6488 persons belonging to London were registered, equal to an annual rate of 18·2 per 1000; in the three preceding months the rates had been 14·6, 16·2, and 17·2 per 1000 respectively. The lowest death-rates in London last month were 12·8 in Hampstead, 14·2 in Lewisham, 14·7 in Woolwich, 15·6 in Battersea and in Wandsworth, and 15·7 in Fulham and in Camberwell; the highest rates were 21·7 in St. Marylebone, 22·1 in Shoreditch, 22·8 in Bermondsey, 23·2 in Finsbury, 23·3 in the City of London, and 23·9 in Southwark. The 6488 deaths from all causes included 521 which were referred to the principal infectious diseases; of these, 191 resulted from measles, 39 from scarlet fever, 60 from diphtheria, 135 from whooping-cough, 21 from enteric fever, one from simple continued fever, and 74 from diarrhœa, but not one from either small-pox or typhus fever. The lowest death-rates from these diseases were recorded in the City of Westminster, Islington, Holborn, the City of London, and Lewisham; and the highest rates in Hammersmith, St. Marylebone, Shoreditch, Bethnal Green, Bermondsey, Battersea, and Wandsworth. The 191 fatal cases of measles were 16 below the average number in the corresponding periods of the ten preceding years; the greatest proportional mortality from this disease occurred in Kensington, Hammersmith, Fulham, Chelsea, St. Marylebone, and Wandsworth. The 39 deaths from scarlet fever showed a decline of 19 from the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Chelsea, Stoke Newington, Shoreditch, Wandsworth, Deptford, and Woolwich. The fatal cases of diphtheria numbered 60, against an average of 164 in the corresponding periods of the ten preceding years; the highest death-rates from this disease were recorded in St. Pancras, Finsbury, Bethnal Green, Stepney, Deptford, and Greenwich. The 135 deaths from whooping-cough showed a decline of 60 from the corrected average number; the greatest proportional mortality from this disease was recorded in Stoke Newington, Bethnal Green, Poplar, Southwark, Bermondsey, Deptford, and Greenwich. The 22 deaths from "fever" were less than one-half of the average; among the various metropolitan boroughs the death-rates from "fever" were highest in City of Westminster, St. Pancras, Stepney, Poplar, Battersea, and Wandsworth. The 74 fatal cases of diarrhœa were 18 in excess of the corrected average number; this disease was proportionally most fatal in Hammersmith, St. Marylebone, Bermondsey, Battersea, and Lewisham. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was nearly 30 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 131 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Islington, Holborn, Camberwell, Lewisham, and Woolwich; and the highest rates in Chelsea, the City of London, Shoreditch, Bethnal Green, Southwark, Bermondsey, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon H. B. Beatty to the *President* for three months' course of hospital study (dated Feb. 10th, 1904). Surgeons: A. X. Lavertine to the *Katoomba* and A. O. Bobardt to the *Eurydus* for the *Wallaroo*, and for Medical Depôt, Sydney (dated Feb. 8th, 1904).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned gentlemen have been appointed officers—viz., Alfred Charles Edward Harris to be Staff Surgeon; Charles Samuel Brewer, John Edward Gemmell, Arthur John Evans, and John Norcott d'Esterre to be Surgeons.

SCOTS GUARDS.

Surgeon-Major W. C. Beevor, C.M.G., from the Seconded List, to be Surgeon-Major (dated Jan. 14th, 1904).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel T. Archer retires on retired pay (dated Feb. 6th, 1904).

The undermentioned Captains to be Majors (dated Jan. 30th, 1904):—H. D. Mason, E. M. Pilcher, D.S.O., H. P. Johnson, W. G. Beyts, H. A. Stalkartt, H. N. Dunn, S. H. Withers, E. M. Morphew, E. C. Anderson, D.S.O., N. Tyacke, L. A. Mitchell, C. C. Fleming, D.S.O., J. Hennessy, C. B. Martin, G. J. Buchanan, C. B. Lawson, J. F. M. Kelly, G. S. Crawford, and J. D. Alexander.

Lieutenant R. McK. Skinner to be Captain (dated Jan. 2nd, 1904).

INDIAN MEDICAL SERVICE.

To be Lieutenants (dated Sept. 1st, 1902):—Frank Powell Connor and George Harold Lawson Whale (dated August 31st, 1903); Robert Kelsall, John Hay Burgess, John McCallum Anderson Macmillan, Clifford Allchin Gill, William Edward James Tuohy, Terence Francis Owens, Richard Francis Steel, George Francis Innes Harkness, Arthur Charles Ingram, Gordon William Maconachie, Ernest William Charles Bradfield, Alexander William Montgomery Harvey, Charles Isherwood Brierly, John Brown Dalzell Hunter, and Edward Temple Harris.

The retirement of the following officers is announced:—Lieutenant-Colonel Hazlett Allison (dated Dec. 23rd, 1903) and Major Ignatius Purcell Doyle, D.S.O. (dated Dec. 31st, 1903).

VOLUNTEER CORPS.

Submarine Miners: The Clyde Division: Surgeon-Lieutenant J. E. Wilson resigns his commission (dated Feb. 6th, 1904).

Rifle: 1st Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment): Surgeon-Lieutenant W. Curtis to be Surgeon-Captain (dated Feb. 6th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Edinburgh Company: Henry Wade to be Lieutenant (dated Feb. 6th, 1904). The Woolwich Companies: Arthur Edward Jerman to be Lieutenant (dated Feb. 6th, 1904).

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

Leicester and Lincoln: Supernumerary Surgeon Captain W. P. Peake, from the 1st Volunteer Battalion the Leicestershire Regiment to be Captain and to command (dated Jan. 6th, 1904).

AN EXCESS OF FORETHOUGHT.

"If," says General Jourdy in his work "L'Instruction de l'Armée Française," "there is to-day a commonplace truth it is that the army being created solely for war all its occupations in times of peace ought to be devoted exclusively to preparations for war." This disposition to subordinate everything to what are regarded as military necessities is to be met with also in England and the extent to which it may be carried is illustrated by certain propositions which, it is suggested, should be laid before the Royal Commission on the Supply of Food and Raw Material in Time of War. Recognising that a great increase of destitution would be a probable consequence of war Captain Murray has devised a scheme for providing what may be described as reserves of charitable resources in the shape of extra poorhouses and relief stations with their complement of relieving officers and other officials, so that the required extension of the Poor-law machinery may be effected without loss of time. Whatever sympathy we may have with the idea underlying this proposal the method of coping with anticipated difficulties which it embodies strikes us as being perilously near a *reductio ad absurdum* in the way of preparation for emergencies, nor does the fact of its having met with approval from the Parliamentary Committee of the Poor-law Unions Association carry much weight. Even as administered at present, with a liberal sacrifice of efficiency to economy, the Poor-law gives rise to calls upon the public purse which tend to sour the milk of human kindness and the contemplation of imposing piles in the way of workhouses and infirmaries, inhabited only by officials whose duties were confined to drawing salaries,

would be calculated to excite riotous disapproval in the bosoms of long-suffering citizens. It is not, however, very likely that any buildings erected would be reserved in the manner mentioned. The need for workhouses grows with the supply of them and the accommodation for the poor is always insufficient to satisfy the demands of that class of the community. There would be a constant tendency to yield to popular clamour by utilising the facilities available for meeting the distress which is always with us and the net result would be an increase of pauperism quite independent of any war. In a matter of this kind it would be foolish to meet trouble half-way, and however valuable precautionary measures of the nature here referred to might be they would be quite disproportionate to the cost incurred in carrying them out.

THE NEW ARMY COUNCIL.

The following are the names of the members of the new Army Council which is constituted on the model of the Admiralty Board: Mr. Arnold-Forster, M.P., Lieutenant-General Sir N. G. Lyttelton, Major-General Douglas, Major General Plumer, and Major-General Sir J. W. Murray, the Earl of Donoughmore, and Mr. Bromley-Davenport, M.P. Colonel Sir Edward Ward is the secretary. It will be seen that new, as well as relatively young, men have been appointed to carry out the great work of reorganisation before them. We do not notice that one of the ablest and most energetic officers, General Sir William Nicholson, the present Director-General of Mobilisation and Intelligence, has been made a member, nor has the head of the Army Medical Service any place in the council. No one has yet been nominated to the post of Inspector-General of the Forces. It has been suggested that Lord Roberts should fill the post but it is not at all certain that the present Commander-in Chief would be willing to do so even were it not opposed to the view which has been made a great point of—viz., that new measures require new men.

THE DIRECTOR-GENERAL AND THE WORK OF THE OFFICERS OF THE ROYAL ARMY MEDICAL CORPS.

In his address to the Lieutenants on probation at the opening of the eighty-eighth session of the Royal Army Medical College Sir William Taylor, K.C.B., remarked: "It is said that the practical experience of the army doctor is confined to treating the diseases of early manhood and that this limitation of practice leads to stagnation of effort and to blunting of mental acuteness and judgment. Believe me, there is nothing further from the truth. No army medical officer need let his knowledge rust; his opportunities for keeping himself abreast of the knowledge of the times are as good and, I think, even better, than those of the doctor in civil practice. There is abundance and variety of clinical work to be found in our army hospitals. The field of the army surgeon is world-wide and in the domain of tropical medicine he will find a field for observation and research that affords opportunities for practice and progress that no other section of our profession possesses."

Correspondence.

"Audi alteram partem."

THE CAUSES OF HIGH INFANTILE MORTALITY.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 30th, p. 334, there is a letter from Mr. J. Theodore Dodd in which he suggests that in those town unions which give very little out-relief the infantile mortality is higher than in those which give a fair amount of out-relief. As one who has given very great attention to this question I can assure him that a high or low rate of out-relief has no more to do with a high or low rate of infantile mortality than Tenterden steeple has to do with Goodwin Sands. He quotes Liverpool and Manchester and compares them with four other large towns; they are not comparable as regards the administration of the Poor-law for this reason: Liverpool and Manchester Poor-law areas number 2470 and 1646 acres; the cities 8133 and 7960 acres. The former are densely populated districts with any number of hospitals and dispensaries, but that does not suffice to keep down infantile mortality, though the last report of the medical officer of health of Manchester shows an improvement as the mortality in 1902 was only 151. If Mr. Dodd will look down his list he will see that his first dozen unions in London are all densely populated, the last half-dozen London unions much less so, and this is also the case with Sheffield (10,000 acres) and Leeds (13,000 acres). Now as Mr. Dodd has referred to Manchester it may be useful to see what the figures are for the three divisions into which Manchester is divided (Table I.).

TABLE I.

—	Persons to an acre.	Proportion of deaths under one year.
Manchester township ...	81	168
North Manchester	23	139
South Manchester	63	150

If Mr. Dodd will turn to the Registrar-General's return he will find that the lowest infantile mortality is found in Rutland, Dorset, Wilts, and Oxford (79 to 100), all agricultural counties. At the other end of the scale we have Warwick, Nottingham, Stafford, Yorks (East Riding), and Lancashire.

TABLE II.

—	Infantile mortality per 1000.	Illiterate women per 1000 marriages.	Percentage of out-relief.
Rutland	79	23	62·6
Dorset	91	14	73·1
Wilts	94	12	66·0
Oxford	100	14	66·5
Hereford	106	34	67·2
Hertford	110	22	65·9
Westmorland	110	22	51·8
Bucks	112	11	74·1
Somerset	112	23	70·4
Shropshire	113	28	42·6
Berks	115	17	41·3
Sussex	117	10	54·0
Bedford...	117	24	73·0
Cambridge	118	28	67·9
Surrey	120	10	41·0
Gloucester	120	29	62·1
Northampton	122	23	73·3
Suffolk	122	20	63·2
Cornwall	126	42	77·3
Hampshire	127	11	56·3
Huntingdon	127	6	57·2
Kent	130	17	45·1
Devon	133	15	73·8
Lincoln	138	21	79·6
North Wales	138	52	82·2
Worcester	141	37	51·5
Middlesex	142	12	43·9
Norfolk	142	24	67·7
Cumberland	144	29	62·5
Cheshire	147	30	56·0
Monmouth	150	64	70·1
Derby	152	21	70·0
Yorks (North Riding)	154	36	64·3
South Wales	154	50	76·0
Essex	155	23	58·6
Leicester	156	18	66·1
London	160	32	27·1
Northumberland ...	165	34	56·8
Yorks (West Riding)	166	39	54·5
Durham	167	40	58·6
Warwick	175	38	40·3
Nottingham	176	33	66·7
Stafford	178	44	57·8
Yorks (East Riding)...	179	23	64·2
Lancashire	180	41	37·2

all manufacturing counties with large numbers of women employed in the cotton, metal, and woollen works. This fact plays an important part in causing the large infantile mortality, because even if the mother does try to nurse her child while going to work at the factory the intervals between the time of feeding the infant are too long, but in a very large number of cases the baby is put out to nurse with all the horrors associated with this practice. I think that if Mr. Dodd will look down Table II. he will see that it is not strict out-relief that is the cause but something which affects larger masses of the people than those who receive relief from the rates.

I am, Sirs, yours faithfully,

Didsbury, Feb. 8th. JNO. MILSON RHODES, M.D. Brux.

MALIGNANT GROWTHS AND NORMAL REPRODUCTIVE TISSUES.

To the Editors of THE LANCET.

SIRS,—I read with great interest the leading article in THE LANCET of Jan. 30th, p. 311, which directed attention to the communication of Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E. Walker to the Royal Society, the abstract of which in THE LANCET of Dec. 26th, 1903, I had unfortunately not seen. I am especially pleased that work is being done in this direction, as, although I have never prosecuted any research myself, I have thought for some years that the line of inquiry now being undertaken by Professor Farmer and his colleagues, and also by Dr. E. F. Bashford and Dr. J. A. Murray, would be likely to yield good fruit.

In 1898, when president of the East Yorks and North Lincoln branch of the British Medical Association, I chose the subject of malignancy for my introductory address. In this paper, which was published in the *Quarterly Medical Journal* for July, 1898, I reviewed all the hypotheses which had been advanced in order to explain the causation of cancer. I emphasised the analogy which had been pointed out to exist between the development of an organ, such as the lung, or a compound racemose gland (where a tube of epiblast bores its way into the underlying mesoblast, the cells undergoing rapid division with an abundant blood-supply) and the growth of a malignant tumour. And the analogy is made closer by the fact that glycogen, which is present in large quantities in the fœtal cells, had also been found by Langhans of Berne and by Creighton in this country to be a constituent of cancer cells. I referred to Hansemann's work on karyokinesis in malignancy. In his monograph he says that in normal tissues, although the number of chromosomes may vary largely in different kinds of cells, the numbers are always even numbers, but that in malignant growths the shape of the karyokinetic figures may differ largely from the normal and that the number of chromosomes may be odd. How these asymmetrical forms are produced he did not know but he maintained that they were peculiar to cancer. I then continued: "So far as our present knowledge extends there are points of resemblance, both morphological and physiological, in the growth of a malignant tumour and the development of an organ in the fœtus. The presence of asymmetrical mitoses in cancer, whether peculiar to it or not, is certainly remarkable and it yet remains to be seen how these forms are produced. It seems to me most likely that we shall find their prototype in the normal structures. As I have said all normal cells when dividing possess an even number of chromosomes and when the chromatin filaments split there must always be an even number in the two daughter cells. Is any other mode of division of the filaments known? Is there any physiological exception to the ordinary method by cleavage of the chromatin threads? There *is* one such exception and I cannot help being struck with the fact and with its possible bearing on what I have said regarding the analogy between the growth of a tumour and that of the fœtus. The exception is in the mode of formation of the generative cells, the spermatozoa and the ova. In the division of the spermatogenic cells of the testicle to form the spermatoblasts or young spermatozoa, the final separation of the chromosomes into the daughter nuclei takes place without the occurrence of a corresponding longitudinal cleavage; the result of this is that the spermatoblasts contain only half the usual number of chromosomes, consequently the male pro-nucleus also is formed by half the usual number. The same may be said of the female pro-nucleus which has parted with one half of its chromosomes in extruding the second directive corpuscle. This work on the generative cells has hitherto been confined to the lower forms of life and no observations have been made, as far as I can learn, on mammals—that is, regarding the number of chromosomes—but it is obvious that should the spermatogenic cells contain 2, 6, 10, 14, &c., chromosomes, the spermatoblast will contain 1, 3, 5, or 7, or odd numbers of chromosomes. Most of the cells worked at contain 8, 12, 16, or 24, so that there would be 4, 6, 8, or 12, or even numbers in the spermatoblast. But Carnoy has described a nematode with six chromosomes in the generative cells which would give an odd number after division. It is hence quite possible that the generative cells of mammals may contain an odd number of chromatin filaments and as these cells under certain circumstances possess the greatest possible power of division and reproduction it may be that the analogy between tumour growth and its physiological prototype may be pushed still further. The idea is, of course, quite speculative and of no real value unless supported by observations on the number of chromosomes in mammalia, which have not yet been made so far as I am aware; still, there is no evidence against it and I think it may be put forward as a provisional hypothesis which will stand or fall according to observations recorded in the future." In conclusion I said: "For my own part I am inclined to the belief that the cause of malignancy will only be explained when we know more concerning the cause of the development of fœtal organs."

I am, Sirs, yours faithfully,

EDWARD HARRISON, M.D. Cantab., F.R.C.S. Eng.

Hull, Feb. 3rd, 1904.

To the Editors of THE LANCET.

SIRS,—I hope you will pardon me if I return to the interesting and stimulating discoveries of Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E. Walker, and Dr. E. F. Bashford and Dr. J. A. Murray. The former have demonstrated that nuclear changes occur in cancerous tissues by which cells of malignant growths may be justly considered homologous to active sexual elements ("gametoid"). Giant cells are suggested to be "fusion figures" which recall normal fertilisation (*sic*) in cancer. I write to ask if botanists or zoologists are of the opinion that post-heterotypic cells (homotypic) are at all "inclined" to develop without fertilisation—i.e., by partheno genesis from (?) chemical stimulus. Does parthenogenesis occur in the embryo sac of flowering plants or in the prothallium of the higher cryptogams under any and what state? On what known conditions does parthenogenesis in the eggs of the honey bee, in ascaris, in artemisia, &c., depend? This sexual character of the cells of cancer explains partly its parasitic and invading nature; the wonderful power of mimicry of the tissues from which they originate, however, might suggest easily that the metastases commence as cells self-fertilised and maturating. A knowledge of the (? chemical) causes underlying both these changes might afford a clue to prevention.

I am, Sirs, yours faithfully,

Plymouth, Feb. 9th, 1904. F. BUSHNELL, M.D. Lond.

P.S.—I should add that Dr. Bashford and Dr. Murray in no way interpret the significance of the mitoses in cancers as evidence of new growths being reproductive tissues.

THE PROPOSAL TO PROHIBIT MEDICAL PRACTITIONERS FROM DISPENSING.

To the Editors of THE LANCET.

SIRS,—As it would appear from the letters of "Paganus," "Surgery," and "M.R.C.S., L.S.A.," in THE LANCET of Feb. 6th that serious misapprehension exists as to the origin and present position of certain proposals to add new clauses, affecting dispensing by medical men, to the draft Medical Acts Amendment Bill which is now under consideration by the divisions of the British Medical Association, I trust that you will be kind enough to insert in your next issue the following explanation which I am authorised to give.

The Medical Acts Amendment Bill, prepared by the Medico-Political Committee of the Association, was remitted

in August last to the divisions of the Association for preliminary consideration and the full text was published in the supplement to the *British Medical Journal* of August 18th last. It contains no reference to the subject dealt with by your correspondents. As a result of the preliminary consideration by divisions the Bill will shortly be re-drafted and will again be submitted to the divisions in order that its provisions may be voted on by the annual representative meeting of the Association, commencing at Oxford on July 26th.

In the process of consideration of the matter by the Central London division (not the Metropolitan Counties Branch as apparently supposed by your correspondent, Dr. J. Oliver, and stated in your leading article on Jan. 23rd), an individual member of that division has given notice that he will move in favour of adding to the Bill clauses to prohibit dispensing by medical men except in certain circumstances specifically stated. His motion will be considered by the division on Feb. 17th.

It will thus be seen that not only do the clauses in question not form part of the Medical Acts Amendment Bill as originally drafted by the Medico-Political Committee and not only have they not received any kind of sanction from the Association; they have not even been so much as considered up to the present by any division of the Association.

I am, Sirs, yours faithfully,

J. SMITH WHITAKER,
Feb. 8th, 1904. Medical Secretary.

To the Editors of THE LANCET.

SIRS,—I have read with much interest your leading article and Dr. J. Oliver's letter on a proposal in the Draft Bill of the British Medical Association to prohibit medical men from dispensing medicines, and I quite endorse the views so well expressed in THE LANCET of the 23rd ult. While a progressive in every sense of the word in medicine as well as in politics I yet believe that we owe much regard and reverence to the past. This subject of dispensing our own drugs has awakened in my breast many old memories, and without discussing the question further on the lines of Dr. Oliver, whose reasoning is sound and irrefragable, I should like, with your leave, to say a few words in this connexion from a retrospective and sentimental point of view.

Some 45 years ago I made the acquaintance in a quiet Scottish village of a man of the highest culture and most courteous manners, with a somewhat wide experience, I have ever known. To myself, a raw beginner, he was most kind. Although my setting up in practice in his neighbourhood might possibly have affected his pocket, he nevertheless was uniformly ready to lend me wise and disinterested advice and assistance. He was indeed in my youth my "guide, philosopher, and friend," and looking back over my past life he was as much my teacher, in the best sense of the word, as were the host of mathematics and anatomy, the other two great factors which have profoundly affected my whole career, such as it has been. 40 years ago, when I was in the habit of visiting my friend, if I did not find him in the shop (he was not ashamed of the title) we were sure to gravitate to that centre. At that period he did not have there his well-plenished wine-cellar, though later on, with its gradual disuse as a drug store, it came to be used for that convivial purpose. How many good stories did its walls call up in the days when his worthy father, a distinguished surgeon of his day (now nearly a century ago) kept a small army of apprentices. But I wish at this time to recall the shop, not for its esoteric relations but for its exoteric influences. There had his father laboured and there had my friend grown up from boyhood to manhood among his fellow citizens. The shop door was always open and the practitioner's advice, mostly without fee or reward, always ready for the benefit of his neighbours, for the poor as well as for the rich—advice not only professional but as often as not on matters of business and conduct. And so the motto "*Nihil humanum a me alienum puto*" should before all be our motto, a motto as old as the days of Hippocrates. And if so, is there not a considerable risk of our losing hold of the regard and, it may be, the affections of our patients by standing aloof too much from their daily lives and neglecting the exercise of our immediate sympathies for their behoof? As has been so well said by John Brown (it does one good to write that fine, wholesome, common name): "It is not a case we are treating; it is a living, palpitating, alas, too often suffering fellow creature."

And is there not the danger of becoming ultra-scientific over much of our wise friend Gardener's "naturalist" in medicine and too little of the good old-fashioned Samaritan with his supplies of oil and wine ready in his wallet to administer to the weary wayfarer in life's thorny path of sickness and disease. Charity at second hand is a poor substitute for real brotherly kindness. "Mittened cats do not catch mice." In other words, the true healer must not only be skilled in what to do but be thoroughly acquainted with how to do it. And this implies a readiness of hand and a constant seeing and handling of the weapons or the adjuvants with which he is to fight the elements of disorder, derangement, and it may be death. In this age of specialism, with all its blatant victories—victories which I do not for one moment despise—no thinking person can deny that the every-day skill and attention of the humblest practitioner, our Gideon Grays and MacLures, may, like the quality of mercy and the gentle rain distilled from heaven, do a thousand times more for sweetening the lives of humanity at large than all the triumphs of the greatest and mightiest and most successful of our surgeons and physicians.

I am, Sirs, yours faithfully,

Feb. 2nd, 1904. W. B.

To the Editors of THE LANCET.

SIRS,—I bought a practice in a poor neighbourhood the *private* receipts from which are about £150 per annum; in addition to this I have in *contract* or friendly society work four clubs; they are my mainstay, they pay £300 per annum and give little trouble; some members pay 4*s.* and others 5*s.* per annum. This makes my practice worth £450 per annum. It took me four years to work this up; competition is keen. Now if I were not allowed to dispense I should be *hopelessly ruined*, for very few of my private patients could afford to pay medical man and druggist; and as regards the contract work I discussed the above question with the secretaries of the clubs and offered attendance at a reduced rate conditionally that they would obtain medicines from and pay the druggist. The answer I got was that they preferred to get medicines and attendance from me as hitherto and, failing this—and here's the rub!—they would unite with three large clubs belonging to my neighbours and form a "friendly societies' medical institute," put all their families in, and get a surgeon to give his whole time to the work. This means that the population of the place would be well depleted by the institute and four of us would be swamped. This is only one instance in which a general practitioner like myself—*plus* three brother practitioners—would be hardly hit or else ruined. I hope and pray that the advocates of this cruel and absurd idea will be frustrated in their attempt to legalise a scheme which would mean the *absolute ruin* of hundreds of hard-working, conscientious men who attend the poorer section of the community—I mean those able and willing to pay a *small* fee and who would otherwise go to the hospital or provident dispensary. To the rank and file of the general practitioners I say, "Wake up!" and strenuously oppose the Bill for the "prohibition of dispensing by doctors."

I am, Sirs, yours faithfully,

Feb. 6th, 1904. L.R.C.P., &c.

To the Editors of THE LANCET.

SIRS,—Your announcement of a meeting of a branch of the British Medical Association about to be held to consider certain new clauses which it has been suggested shall form part of the Medical Act Amendment Bill, and more particularly the clause respecting the dispensing, has led me to write you to call attention to another matter which I think bears as hardly on the medical profession as it does on the public. I write as a chemist and would be glad to see the proposed new clauses re dispensing adopted. It is, however, a matter that must, I think, be left to the medical profession. Our society has done its duty and to-day there are capable qualified men in every legitimate chemist's shop in Great Britain waiting hopefully for the time when medical men shall delegate their "dispensing." This by the way. What I took up my pen to write about is the question of *prescribing*.

I want to point out that the prescribing chemist, speaking broadly, is non-existent; the old school is perhaps represented here and there but for practical purposes there are no prescribing chemists. But to-day illegitimate prescribing is more practised, more far-reaching,

more detrimental, alike to the public and to the medical man, than ever it has been at any period. The prescribing chemist has given place to the daily newspaper and magazine and the public swallow the quack nostrums there prescribed and so blatantly advertised and pay out their half-crowns without hesitation, in the majority of cases losing their money and vitiating their health in a stupendous, wholesale style never previously dreamed of. Never have the ailing public been so exploited. Great Britain has become the happy hunting-ground of the American professor of humbug and a rich harvest is being gathered by means of positive statements that applied to any other commercial transaction would assure prompt arrest and punishment. Why is it the law permits the statement that "Dr. Blank's Blue Pills" will cure locomotor ataxy, paralysis, and the like, and yet when the poor sufferer has spent his money and proved the fraud of the label the law offers no facilities for prompt punishment of the fraudulent vendor?

It is rumoured that owing to a recent legal ruling the authorities charged with the collection of revenue from these quack nostrums will shortly introduce an amending Act into Parliament widening the scope of its Acts. If this is done the medical profession should see to it that in future the Government should free itself from its association with quackery either by insisting on the actual formula being published on the outside of every package (as on the continent) or in some other distinct manner withdraw the sanction which its medicine stamp now extends. In view of the recent disclosures by a medical man (as reported in THE LANCET) of the ingredients of these nostrums the public will not need anything further to show them the "folly of their faith" than a knowledge that the actual ingredients of their favourite nostrum can be purchased for a few coppers. Apart from any other considerations it is pitiful to see the way the very poor are defrauded of their money and often when they need it most. The Government should do something to protect the ignorant or, at all events, in common decency they should dissociate themselves from a "connivance with quackery" and the medical profession should not hesitate to speak firmly on the subject.

I am, Sirs, yours faithfully,

Feb. 8th, 1904. A CHEMIST AND DRUGGIST.

THE ANGLO-AMERICAN MEDICAL ASSOCIATION OF BERLIN.

To the Editors of THE LANCET.

SIRS,—The Anglo-American Medical Association of Berlin will be glad if you would inform the profession of its organisation and purposes. Realising the difficulties which beset the path of the stranger, the association places its services at the disposal of physicians who intend to study in Berlin. They are cordially invited to attend the meetings which are held weekly, and any information concerning the work to be had here will be gladly given to any member of the profession who will communicate upon his arrival in Berlin with Dr. J. H. Honau, president, Lützow Str. 78, or with the undersigned committee.

We are, Sirs, yours faithfully,

ALBERT J. MAYER, M.D., Secretary.
DAVID SHANNON, M.B. Glasg.
WILLIAM W. GRAVES, M.D.

Albrecht Str. 22, Berlin, Feb. 3rd, 1904.

SPORADIC SMALL-POX.

To the Editors of THE LANCET.

SIRS,—Wherever a sporadic case of small-pox occurs and there is no history of infection the question must naturally puzzle one as to the origin of the disease. Quite recently a case of small-pox occurred in my district and, like many other cases, so far as could be ascertained by questioning the patient, there was absolutely no history to answer for the infection. The house in which the case happened was dark and exceedingly dirty, and the rooms had a large number of papers upon the walls which were infested with bugs. During the outbreak of small-pox at the end of the year 1901 and the beginning of the year 1902 the stripping and cleansing of rooms previously to lime-whiting revealed large numbers of papers upon the walls of houses which were terribly infested with bugs. The amount of pent-up filth to my mind was so alarming that in reporting to my public health committee respecting the working of the sections of the Public Health (London) Act, 1891, which govern the cleansing and disinfection of houses, *inter alia* I stated:—

> Some of the rooms which were stripped after the cases of small-pox had 18, 15, 12, and 10 papers on their walls. The amount of pent-up filth must be enormous and it is not reasonable to expect tenants to cleanse such rooms by stripping the papers off the walls, so that if the tenants have to cleanse such walls the so-called cleansing will only be carried out by pasting on another paper. It is a common practice with owners after one tenant has left and before another one comes in to paste paper over the walls to hide the dirt and filth and to keep together the plaster. If such a state of affairs as this is allowed to go on the houses of the working classes in London will in time become so saturated with filth and disease that a condition of affairs in the metropolis will be arrived at like that in the year 1665 when plague broke out.

Recent researches in respect of mosquitoes being the carriers of malaria and of fleas being the means of conveying plague from infected rats suggest an idea as to whether there is any condition of a bug externally or internally which causes small pox. I must apologise for writing on what may be considered so puerile a matter, for the question may be derisively asked what about lice and black beetles; but the walls of the houses which were cleansed, disinfected, and lime-whited had so much pent-up filth upon them by the plastering of paper upon paper that possibly the surroundings of the bugs had affected their condition or excreta, and any ideas which may suggest to bacteriologists new fields to work on in order to discover the origin of so loathsome a disease as small-pox, which must originate from some cause I am sure, cannot be amiss.

I am, Sirs, yours faithfully,

FREDK. WM. ALEXANDER,
Medical Officer of Health, Metropolitan Borough of Poplar.
Bow-road, E., Feb. 2nd, 1904.

THE TREATMENT OF SCOLIOSIS.

To the Editors of THE LANCET.

SIRS,—In the report you give in THE LANCET of Jan. 30th, p. 302, of my paper on the above subject read before the Aberdeen University Medical Society there are several passages which give an entirely erroneous impression of what I said.

1. "In osseous scoliosis there was *bone disease* and the condition was to that extent incurable." What I said was that "there was bony *deformity* and the condition was to that extent incurable."

2. "In *postural* scoliosis the curve in about one-half of the cases was a *reversed* C in the *dorsal region*."

This is not so at all. In all cases of scoliosis—viz., postural and osseous combined, about one-half have an *ordinary* (not reversed) letter C curvature of the whole dorsal and lumbar vertebræ (not only the dorsal region).

3. "The muscular sense was markedly *absent* in the wasted muscles."

Surely the patient's muscular sense is *perverted*, not *absent*, for the vicious posture appears to her quite natural, while the improved position in which she is put by the surgeon appears to her, through her perverted muscular sense, to be totally incorrect. If the muscular sense were absent it would be a waste of time to treat the patient at all. I should be obliged if you would insert this in your next issue, as such errors are very misleading and tend to discredit the very valuable method of treatment which I was advocating.

I am, Sirs, yours faithfully,

P. BERNARD ROTH.

Marischal College, Aberdeen, Feb. 2nd, 1904.

*** We have referred the above letter to our correspondent in Aberdeen who replies that his report "gives a very reasonable gist of the lecture" and was not intended to be *verbatim*. To the first and third emendations he demurs; the second one he admits to have point and accepts the correction with regrets for the slip. In these regrets we join.—ED. L.

CHLORETONE IN SEA-SICKNESS.

To the Editors of THE LANCET

SIRS,—In a recent issue of THE LANCET experiences were invited with regard to the treatment of sea-sickness by chloretone. I notice several medical men have given the experiences of their patients, but I shall venture to place before you my own personal experience of the action of this drug. I am always a bad sailor and when it recently

became necessary for me to visit the continent I determined to give chloretone a fair test. Not having taken a voyage for five or six years, I practically left myself untreated on the voyage over which lasted some four hours, to test my seafaring qualities. It was fairly rough but I tried to brave it out, remaining on deck. I was, however, soon completely overcome and before reaching the continental port was very much in the condition of the man who at first was afraid he was going to die, but a little later was afraid he was *not* going to die. On this occasion when nausea came on I took a dose of chloretone which had no beneficial action, but the test not being a fair one I pass it by. On the return voyage, however, I determined to give the drug every chance. Having one and a half hours' railway journey before joining my boat, I took ten grains of chloretone on beginning this portion of the journey, repeating the dose just before going on board. I remained quietly reclining on deck and took a third dose about an hour after sailing, thus having 30 grains in from two to three hours. The result was absolutely unsatisfactory and during the second half of the crossing, which this time likewise was fairly rough, I was as ill as I ever was before. Furthermore, the nausea lasted rather longer than usual after landing, but this I put down to mere coincidence. Chloretone in my case proved absolutely useless. A lady doctor of homœopathic tendencies gave me some high-grade petroleum tablets to try. I undertook to do so only in case the chloretone failed and when it was evident that it had I took the petroleum tablets but without avail. I know chloretone is successful with some individuals, but it failed in my case after a most fair trial.

I am, Sirs, yours faithfully,

South Kensington, Feb. 5th, 1904. L. ERASMUS ELLIS.

To the Editors of THE LANCET.

SIRS,—Under the above Mr. Cameron Kidd, in THE LANCET of Jan. 30th, p. 334, reports an interesting case of "train sickness" in a little girl successfully treated with chloretone. In THE LANCET of June 8th, 1895, p. 1434, I drew attention to such cases, recommending sulphonal in varying doses. Common as it is in children, as I pointed out, and trivial as it may seem amongst adults, "railway megrim varies from undue fatigue and inability to sleep the same night to intense headache, sickness, and prostration," and there are many "in whom a railway journey of two hours produces as much dread and misery as a sea passage." At the time of my communication I recollect receiving more than one grateful letter from readers of THE LANCET and since I have often used myself and recommended sulphonal or trional with success. Still, in some cases I have failed and I am especially obliged to Mr. Kidd for his recommendation of chloretone.—I am, Sirs, yours faithfully,

Feb. 9th, 1904. JOHN A. SHAW-MACKENZIE, M.D. Lond.

THE REVACCINATION BILL, 1904.

To the Editors of THE LANCET.

SIRS,—I do not see in the draft of this Bill printed in THE LANCET of Feb. 6th any procedure described to secure the revaccination of children in lunatic asylums.

I am, Sirs, yours faithfully,

W. H. BOWES.

Plymouth Borough Asylum, Ivybridge, Devon, Feb. 9th, 1904.

THE INQUEST ON WHITAKER WRIGHT.

To the Editors of THE LANCET.

SIRS,—Mr. D. Biddle in his well-argued letter in THE LANCET of Feb. 6th, p. 394, on the inquest of Whitaker Wright says, "The bluish tint of the body and the fluidity of the blood are neither separately nor together distinctive of poisoning by prussic acid." As to the fluidity of the blood I cannot speak positively, but I think that if the body is seen soon after death the blue colour may be looked upon as pathognomonic of poisoning by hydrocyanic acid.

Some years ago I was first impressed with this fact by a melancholy case of poisoning by prussic acid which came under my observation. The subject was a handsome, fair-skinned, young man who, in a fit of temporary insanity, drank an ounce of hydrocyanic acid. I saw him a few minutes after he had swallowed the fatal draught lying dead on his bed and the empty bottle, which had evidently contained the acid, was on a chair by the bedside. As regards the appearance of the body, the first thing that attracted my attention was the brilliant violet colour which the skin presented. Several hours afterwards when I again saw the body the violet colour had considerably faded. The intensity of the colour in this case may have been owing to the large quantity of poison taken. Dr. Taylor, in his book on Poisons, mentions a violet colour as one of the appearances met with after death from poisoning by hydrocyanic acid.

I am, Sirs, yours faithfully,

WILLIAM O'NEILL, M.D. Aberd., M.R.C.P. Lond., &c.

Lincoln, Feb. 6th, 1904.

THE DESTRUCTION OF TUBERCULOUS SPUTA.

To the Editors of THE LANCET.

SIRS,—I notice in a paper by Dr. C. T. Williams that he advises as a convenient method of destroying the expectoration of tuberculous patients mixing it with sawdust and burning it. For some years I have advocated the following plan which appears to me a more complete system. A small cardboard box is half filled with sawdust which is damped with paraffin. Into this the patient expectorates and at the end of the day it is easily burnt. Even in the summer when there may be no fire, a match will be sufficient to cause its total destruction. Most householders have a superfluity of such boxes and are pleased to find a use for them. If a cup is used or a bottle to carry about it is quite easy to have a lining of greased paper which can be lifted out with its contents each night and burnt.

I am, Sirs, yours faithfully,

J. LIONEL STRETTON,

Senior Surgeon, Kidderminster Infirmary and Children's Hospital.

Feb. 2nd, 1904.

MEDICAL ACTS AMENDMENT BILL.

To the Editors of THE LANCET.

SIRS,—I am glad to learn from THE LANCET of Jan. 30th, p. 339, that Clause 34 of the Medical Acts Amendment Bill has met with adverse criticism at the meeting of the Cardiff division of the British Medical Association. My surprise is that any division has tolerated it. In my opinion it is quite unnecessary to protect the profession from unqualified practitioners and would certainly be very detrimental to the interests of the general practitioner. Few of us in such conditions would care to employ an assistant and an additional hardship would be thrown on those who are obliged to. In addition to the increased facilities given to an unscrupulous assistant to pretend to partnership there is the obvious harm likely to arise to a practice from the open advertisement in connexion with it of men who, later on, may become notorious black sheep. Considering the complaints so often made in the medical press of the class of practitioner too frequently foisted on us as assistants, and that two months is far too short a time for the principal to find out the character of his assistant, the exemption suggested is practically of little use.

For my own part, if this clause is retained I would rather see the whole Bill—which in many points is an excellent one—lost, so detrimental do I consider the conditions it lays down to the best interests of the general practitioner.

I am, Sirs, yours faithfully,

MAJOR GREENWOOD, M.D. Brux., LL.B.,

Hackney-road, N.E., Feb. 4th, 1904. Barrister-at-law.

THE TEACHING OF BIOLOGY.

To the Editors of THE LANCET.

SIRS,—In July last a committee appointed by the Royal Colleges of Physicians of London and of Surgeons of England to consider what alterations, if any, were desirable in regard to the conduct of the First Examination of the Conjoint Board issued a report containing certain suggestions which deal, *inter alia*, with the teaching of biology. The report has been adopted by the Colleges and in pursuance of its recommendations an attempt is now being made by the committee to elicit the opinions of teachers in the metropolitan and provincial schools on the following points:—

1. What alterations, if any, are desirable in the synopsis for elementary biology?

2. Is it desirable that there should be a paper in biology in addition to the *viva-voce* examination?

3. If so, how many questions should be set in the paper and how many hours allotted to it?

4. Should the candidates be required to answer all the questions or should they be allowed a choice?

Of these questions Nos. 2, 3, and 4 deal with matters of detail which may well be left to the decision of the representatives of the various schools, but the first raises larger issues and makes the present an opportune moment for the consideration of the place of biological training in medical education. In all seriousness it may be asked whether a course of lectures and demonstrations on anything like the present lines has a value in the least commensurate with the time it must occupy even if, as suggested by the committee, some portion of the course is gone through elsewhere than at a medical school and before the preliminary examination in general education is passed.

Until about ten years ago elementary biology as understood by the Colleges was chiefly a matter of parasitic worms, but still the teaching had the merit of being founded on the principle that even the studies of the first year should have some practical bearing on medicine. The old arrangement, however, made necessary two distinct courses, one for candidates at the "College" examinations and the other for those belonging to the University of London and as this involved a considerable waste of energy the present syllabus, which is a feeble imitation of that for the preliminary scientific examination of the University, was adopted. It cannot be said to have been a success. It aimed at supplying at once an introduction to the serious study of biology and an exposition of the biological problems which are met with in medical practice and in both respects it has signally failed. Having satisfied the examiners that he can identify a cross section of hydra or the ovary of lumbricus the student hastens to forget all about those creatures and nothing in his subsequent medical career is likely to remind him of their existence. He has, perhaps, a vague notion that something lies behind them but there is no time to teach him what that something is; he must get on to the next "type." No wonder then that he remains as ignorant as the average layman of the part which natural selection, changes in the environment, hereditary tendency, and other biological factors have played in producing those complex human mechanisms with which he will shortly begin to occupy himself. And yet it is of the first importance that he should be familiar with topics such as these. More and more clearly is it being recognised by the world at large that any satisfactory scheme of practical morality must have a biological basis which professional theologians make no pretence of supplying, and the medical man is expected to make good the deficiencies of creeds and homilies. For the student of medicine the science of life should embrace much more than a little animal morphology tempered with a trace of the botany of the cryptogams and should deal as fully as may be with those principles which explain, however imperfectly, man's place in the scheme of things.

In the University of London, which, as already indicated, has influenced the requirements of the Conjoint Board, the courses of study for medical and scientific students overlap and from motives of economy the preliminary scientific studies of the former are arranged on lines which are only appropriate to the latter. It may be safely assumed that the practising physician has neither inclination nor opportunity to become a specialist in botany and zoology and it serves no useful purpose to base his limited study of biology upon work which is only of value if duly followed up. His peculiar need is to understand why man is what he is, and his interest is in the results rather than the methods of biological research. Palæontology, ethnology, psychology, and sociology are of no less importance to him than botany and zoology and all these branches should be laid under contribution.

To insist that a medical man cannot obtain a useful knowledge of biological matters without dissecting "types" is akin to reviving the obsolete method of studying the classics which requires the reader to hunt up all the words in a dictionary instead of profiting by the labour which has provided translations. Man is the only "type" which the physician can find time for. Let him therefore learn something of the springs of human conduct, of the religious sentiment, of the organisation of society, and of the other phases of man's kaleidoscopic personality. Of more strictly technical subjects he may ponder on the origin of living substance, the phenomena of growth and decay, the nature of that *vis medicatrix* without the aid of which all his arts are as nothing, and the host of similar problems which his daily round presents. If questions like these are too abstruse for his student days let him take biology at a later stage and spend his first year in the acquisition of facts relating to human anatomy or the materia medica. At any rate, let him not cherish the delusion that to pass the present examination will constitute him a biologist. The play of *Hamlet* without the Prince of Denmark is not more absurd than a synopsis in biology which makes no reference to the principle of evolution.

I am, Sirs, yours faithfully,

A FORMER TEACHER.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Vaccination in the Madras Presidency.—A Curious Petition against a Septic Tank.—The Plague.—Statistics concerning Bombay and Calcutta.

AN order has recently been passed by the Government of Madras formulating an elaborate scheme for the improvement of the working of the vaccination department. Hitherto the staff of vaccinators has been numerically inadequate and vaccination has made but slight progress. It may be said also that the class of men employed is open to improvement. The staff is now to be graded and the pay is to be raised. The use of preserved lymph enables the vaccinator to cover more area than used to be the case when he had to secure lymph from the arms of previously vaccinated persons. The supervising agency will also be increased. Vaccination is not compulsory except in the towns, but it will be declared so in certain districts. The King Institute of Preventive Medicine at Guindy will supply the requisite lymph. From the last report about 66 per cent. of the children in the municipalities were vaccinated, with a reported ratio of success of 89·4, but throughout the whole presidency, with a total population of over 37,000,000, it appears that only 356,000 children under one year of age were operated upon, the births being recorded at 935,749. The death-rate of infants under one year is certainly not less than 200 per 1000 and with the imperfect registration of births is probably much more. The census of 1901 showed an infantile population (under one year) of 1,119,450.

A curious memorial has been presented to the Lieutenant-Governor of Bengal by some of the Hindu inhabitants of Rishnu, near Calcutta, complaining against the establishment of a septic tank intended for the use of mill hands. The sacred Ganges (Hooghly river branch) is to be polluted, the neighbouring shops are to be contaminated, and the religious feelings of the temple worshippers are to be outraged. The memorialists seem to confuse the annoyances of a large public latrine with any possible offensiveness of a septic tank, and to ignore the common customs of using the river itself as a latrine and of utilising any convenient spot by the roadside for the same purpose. That a public latrine used by thousands of mill hands close to the public road may be a nuisance if not properly constructed and managed is tolerably certain but that objection should be taken to the septic tank is merely an example of that passive resistance so characteristic of the Indian people. From time to time I have drawn attention to the installation of the septic tank system for the disposal of sewage at several mills and factories, and subsequent reports have only proved their usefulness and desirability in the point of view of sanitation. It is to be hoped therefore that an investigation by experts will report before the prayers of an ignorant crowd are listened to.

The plague in Kashmir is fortunately subsiding. It is stated that the spread of the disease after the second case reported was due to the relatives and friends of the deceased who had attended the patient digging up his body at night because it had been buried without performing the usual religious ceremony. Some of the mourners soon after were infected and spread the disease.

Some interesting statistics concerning Bombay city were given by Dr. J. A. Turner at a recent public meeting. About 6000 persons are employed in cleaning the city. About 1000 tons of garbage have to be removed daily as well as

about 500 tons of night-soil. The mean mortality from phthisis during the past 10 years is: Mahomedans, 11 per 1000 of the population; Hindus, 5·8 per 1000; Parsees, 1·4 per 1000; and Europeans, 0·3 per 1000. The total mortality from phthisis is 6·6 per 1000, as against 1·6 in London and 2·3 in Manchester. The mean annual infantile mortality is equal to 700 per 1000 of the births and the number of children under four years of age dying yearly is 12,000. In Calcutta also the death-rate from phthisis is very high, and the ratio of infants (under one year) dying is 491 per 1000 births. The Mahomedans lose 843·6 per 1000 births, while amongst the Hindus the rate is 401·3.

Jan. 22nd.

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

THE BATTLE OF THE CLUBS AT SOUTHAMPTON.

FOR some time past the work of organising the profession at Southampton has made steady progress. It was the decision given by the General Medical Council in regard to the difficulty that arose at Great Yarmouth which brought matters to a climax at Southampton. Several practitioners in the latter town felt that they also were acting as medical officers of insurance companies employing canvassers and might be exposed to similar reprobation. One or two among them approached the secretary of the local branch of the British Medical Association and urged that some explanation should be forthcoming so as to enable them to know in what position they stood. The National Medical Aid Company, Limited, and the London and Manchester Insurance Company had branches in Southampton which employed medical men and there were some laymen who had clubs of their own. For instance, the agent of an insurance company which had no medical aid organisation found that this was a disadvantage. He therefore called on four or five medical men and organised a club of his own. His customers who insured their lives or their furniture were thus also able to insure against sickness. This agent took a penny per week from them all, whether men, women, or children, which he handed over to the medical practitioner after deducting from 15 to 20 per cent. for the trouble of collecting. Though the profession thus found itself in a somewhat parlous state the local branch of the British Medical Association did not take any action. It was in the habit of meeting only once in the year but its secretary personally took great interest in the attempts about to be made.

There is an old-established social and scientific society called the Southampton Medical Society and this body meets every month during the winter season. Though the subject was somewhat outside the usual scope of its discussions the question of club practice was put down on the agenda for one of the meetings. The medical men who then attended and discussed this matter felt that the only manner to deal effectively with it was to call a general meeting of all the practitioners of the neighbourhood. This was done. The first invitation was issued on Jan. 28th, 1902, for a meeting held on Feb. 6th. Other meetings followed in rapid succession and by Feb. 20th a scheme of organisation had been drawn up. This meeting of Feb. 20th was an important gathering. There were 28 practitioners present and this must be considered very good, as it was estimated that there were not more than 60 practitioners in the town and the neighbourhood. It was then decided to form a medical union "provided a practical unanimity was secured." On March 7th another meeting was held and an appeal was drawn up to the other practitioners urging them to fall into line. The first secretary, Mr. W. Hall, then resigned and was succeeded by Dr. W. Prior Purvis. By March 22nd sufficient progress in the work of organisation had been made to decide that to cover working expenses each member should pay 5*s.* a year. The greater part of the discussion held at the meetings related to the rules and the declaration of principles which every member would be called upon to sign. A large number of meetings were held so as to keep all the members well informed as to what was being done. Thus, in addition to many minor meetings there was a general meeting on April 15th and another on June 19th following. As a rule these meetings were held after working hours—that is, at about 9 P.M. At the last-mentioned meeting a permanent executive committee of 11 was appointed in the stead of the temporary committee and on July 30th the following officers were elected:—Mr. J. F. Bullar as permanent chairman, Dr. H. W. Shettle as honorary treasurer, and Dr. A. A. Mackeith as honorary secretary.

The organisation was now therefore definitely constituted and it entitled itself "The Southampton Provident Medical Association." It had also by this time agreed upon its object and policy. There were a large number of church and chapel clubs at Southampton together with public house slate or sharing-out clubs. The members of these clubs who paid 1*d.* per week extra could have medical attendance. The question arose whether this could not be checked by raising the subscription from 1*d.* to 1½*d.* It was agreed that all the medical men should write identically the same letter to these clubs and also to the National Medical Aid Company, Limited, and to annual benefit clubs. Notices to this effect were to be given on Sept. 28th, so as come into effect at the beginning of 1903. But it was decided that no action should be taken in regard to the registered friendly societies such as the Oddfellows, the Foresters, and the like, and some trade unions, notably the boiler makers. Though abuse undoubtedly exists in regard to these organisations, nevertheless there are not the same scandalous circumstances connected therewith as exist in regard, for instance, to some of the public-house clubs or the clubs connected with the churches and the chapels.

A general meeting was convoked for Sept. 2nd for the purpose of signing the bond and agreeing as to the text of the letter to be written to the clubs. 20 medical men attended. The bond was dated August 5th and after this meeting 49 medical men had signed it out of the 57 then in practice at Southampton. The following is the text of the bond in question:—

Rules of the association, Article 23: "Every medical officer on joining the association shall sign a properly drawn declaration to the effect: 1. That he will not take any contract patients at a lower rate than that paid to the association except members of such friendly societies as are recognised by the committee of the association. A list of such friendly societies shall be kept by the secretary and any alteration of this list shall be submitted for approval to the next general meeting. 2. That he will not advertise for patients directly or indirectly or treat patients sent to him by persons or companies who advertise for patients. 3. That he will not for a period of two years after the formation of the association accept any club which at that time was attended by another medical officer, except with the written consent of the original medical officer or of the committee of the association. 4. That he will not employ a collector or collect subscriptions from contract patients at their homes. 5. That he will obey the rules of the association and do nothing contrary to its welfare."

Members who, after signing the above, did not conform to these rules could be excluded from the association if at a general meeting convoked to discuss their case there was a two-thirds vote against them. Then Rule 25 stated that—

No medical officer of the association shall meet professionally any medical man resident within the borough of Southampton, or carrying on contract medical practice therein, who is not a medical officer of the association or who has not signed a statement acceptable to the committee thereof, except in cases of immediate urgency and all such shall be reported to the committee within a week.

While determined to abolish or to reform the worst features of club practice the medical men of Southampton decided that they must also adopt a constructive policy. Therefore, instead of calling their organisation a medical union they have taken the title of Provident Medical Association and determined that they would themselves provide medical attendance and medicines for those persons not able to pay the ordinary medical fees. Every practitioner was to be induced to join the union either as an active member if he intended to treat poor patients on the contract system or as an honorary member if he did not, but in either case the entire profession must be brought into the movement. All were interested in the question, even those who had no club patients. Having thus decided that they would themselves provide what medical aid was necessary, the question of the collection of the subscriptions was one of the first difficult problems that had to be taken in hand. It was a very puzzling practical matter and the want of experience was keenly felt. If a collector was paid by results abuse was very likely to arise, for he would be tempted to enrol persons who could afford to pay medical fees. On the other hand, if he was not paid by results then he was tempted to be neglectful. It was decided that the latter was the less of the two evils and therefore the association resolved to pay its collectors a fixed salary and not to give them any commission for obtaining new subscribers. Indeed, they were instructed not to enter a new subscriber on their books unless the candidate had been examined by the medical attendant whom he had selected. Nor were the collectors to be

allowed to collect for any insurance company. They might sell mangles and collect weekly payments for the same but must not deal in anything with which the question of insurance against sickness could in any way be associated. The collectors must find sureties; one of them has paid £25 into the bank. Three collectors have been appointed, one being paid £2 a week and the other two £1 each. They are men accustomed to the business and had already large collecting books—indeed, one of them had been working among the people whose clubs were abolished by the action of the medical men and who consequently came over to the association founded by the medical union. The rule was made that the collectors must pay the money they received into the bank every week so that if the payment was not made or if the sum differed in any marked degree from what was usually received inquiries could be instituted.

The next point was to divide the town into districts, so that each practitioner might choose the district where he could most conveniently attend to patients. The medical officers would continue to provide the drugs as in the past, but they would receive 1½*d.* instead of 1*d.* per week. When the circular announcing this determination was launched on Sept. 28th, 1902, only five practitioners had not signed the agreement and joined the medical association. Two out of these five have subsequently joined, but one of them, though a young man, has practically retired. A third refused to sign because he had no club work whatsoever. Of the two remaining one is very old and did not feel capable of taking any action one way or the other and the fifth, though he refused to join the association, wrote saying that he would not undersell his fellow practitioners and promised not to take any new club except at the increased rate of payment.

The first start was therefore made under the best auspices, but weak points became manifest when once the organisation got under way. Early in the history of the movement one of the members resigned. He pleaded that he had a wife and family to maintain, that his patients could not pay more than 1*d.* per week, and that he could not afford to lose them. He did not seem to understand that he would get more by the proposed change. He was afraid of the risk and therefore resigned. Two other unfortunate circumstances occurred that were not directly connected with the medical organisation but affected it considerably. There was a benefit club called the Dock Friendly Society. This was a registered friendly society and the movement was not intended to affect such bodies. But the medical officer attached to this club was not satisfied. He found that no new members joined, that the average age of the members was 44 years, and consequently there was a great amount of sickness in proportion to the very small pay. At a penny a week it is only possible to attend to the members of a society on condition that there should be a normal proportion of young and healthy members as well as the old and the infirm. Therefore the medical officer resigned and this gave rise to the belief that all the friendly societies would be attacked. The second incident was the resignation of a firm of practitioners who refused to attend a lodge of female Oddfellows. These two resignations had nothing to do with the organisation which the medical men had just established but the friendly societies did not know this and imagined that they were seriously menaced. They said that the medical men had begun with the weak societies but would soon be attacking the stronger ones. The medical officers attached to the male lodges of the friendly societies held a meeting and declared that they had no intention of raising their charges. Nevertheless, and so as to be independent of the medical men's organisation, the female lodge of Oddfellows and the Dock Society advertised for a medical officer and so did the National Medical Aid Company, Limited. This company had started business in Southampton some 15 years previously. It employed five medical practitioners. Whenever there was any difficulty with one of them the company at once imported a new practitioner into the town. They probably paid in all about £250 a year to be shared by their five medical officers at the time the Southampton Provident Medical Association was started. When these five medical officers resigned the subscribers were told to join the association formed by the united profession. In any case this was the only means by which they could retain their usual medical attendants. The collectors of the National Medical Aid Company, on the other hand, went their usual rounds announcing that new medical officers had been appointed and did not say anything about the formation of the association by the former medical officers. The company had imported three medical men and strove to make them do the work of the five who had resigned. This, however, did not succeed. The patients preferred their old attendants even though this meant an increase of 50 per cent.—that is to say, 1½*d.* instead of 1*d.* per week. The three imported medical men received so little support that the National Medical Aid Company gave up the struggle altogether and has now ceased to exist in Southampton. Thus at least in this point of the field the victory was complete.

The Dock Friendly Society had also imported a medical practitioner; and as it had not enough work for him it took the initiative in founding what is called the Southampton Benefit Societies Medical Federation. Some of the annual benefit societies joined and the federation claims to have over 2000 subscribers. This membership at the old rate of 1*d.* a week did not provide much of an income for the medical men who had been imported into the town. But the insurance companies encouraged them to form private clubs with the members for whom these companies used to provide medical aid. The London and Manchester, however, which had been collecting 1½*d.* a week and paying its medical officers only from 3*s.* to 4*s* a year, handed over all its subscribers and the 1½*d.* to the Southampton Provident Medical Association but they had only 144 members. Still it was a help.

The greatest cause of success, however, was the attachment of the people to their medical attendants. When they found that these medical officers meant to manage their own business themselves they could not but acknowledge that this was fair. It is no advantage to the patient that some individual or some club should step in between him and his medical attendant and "sweat" a profit out of the latter. It was also felt that the charge of 1*d.* a week was instituted more than half a century ago and that wages have increased considerably in the interval, so that it is now time to augment such payments. Nevertheless, it was no small undertaking. By giving up the old contract work at 1*d.* per week it was calculated that some 10,500 persons would be affected. More than a year has elapsed since the struggle began and it is now estimated that the Southampton practitioners have lost about 3500 subscribers who are paying a penny a week to the imported practitioners. On the other hand, the members of the Southampton Provident Medical Association have about 7000 subscribers at 6*s.* 6*d.* per annum instead of 4*s.* 4*d.* This includes 4000 directly enrolled and 3000 having organisations and means of collecting of their own. The members of the medical association are therefore now doing only two-thirds the amount of work which they did formerly and they receive if anything rather more pay. The cost of collection, the clerk, the printing, in fact all the working expenses, amount to about 21 per cent. of the receipts. Therefore the medical officers receive in cash and net 4*s.* 10½*d.* per member, whereas formerly they never had more than 4*s.* 4*d.*, and from this latter sum the cost of collecting was very often deducted. At the same time there is much less abuse and canvassing, undercutting, and unfair competition have been altogether abolished. The tone of the profession has been thus raised, yet no financial loss has been experienced. All the members have remained faithful to the Association and the newcomers to the town, six in all, have joined the union of the Southampton practitioners. The general feeling therefore is one of great satisfaction. The worst elements of contract work have been abolished. The great majority of subscribers are paying 6*s.* 6*d.* per annum and thus provide an object lesson that shows this is not more than they can afford. These excellent results would not have been obtained so easily but for the fact that the work of organisation was rendered much easier by the energy and devotion of the chairman, Mr. J. F. Bullar, who has acted throughout in a most disinterested manner, having no club practice or personal interest to serve. The secretary, Dr. A. A. Mackeith, is likewise unremitting in his attention to the wearisome details of organisation and has always displayed great tact and activity. The policy pursued has been absolutely opportunist, attacking only where there was a real chance of success, and the results so far are very good. Perhaps this will lead the old-established friendly societies to reform themselves and to introduce a wage limit. Short of this measure it will be impossible to prevent abuse. Medical men cannot be expected to continue indefinitely to attend well-to-do tradesmen for a penny per week because they

happen to be members of such societies as the Oddfellows or the Foresters. This matter has not yet been raised in Southampton. Very cordial relations prevail between the friendly societies and their medical officers but the grievance is there, the abuse does exist, and it is for the friendly societies to maintain the peace by abolishing the abuse. But I must add that these last remarks convey only my personal opinion. In no way am I reflecting what was said to me by any responsible member of the Southampton Provident Medical Association. These observations about the abuse prevailing among the old-established friendly societies are neither official nor officious. They can therefore be taken in good part. They cannot be interpreted as a threat. They represent but an outside opinion and for that reason are perhaps worth considering, if only because they are impartial and disinterested.

THE "MEDICO CONDOTTO" OF ITALY.

(FROM OUR ROME CORRESPONDENT.)

THE term "medico condotto" is applied in Italy to the medical man employed to attend upon the sick poor of a commune and is derived from the "condotta" or area over which his work is "conducted." The appointment is in the hands of the communal council which selects for the service one or more of the medical practitioners already resident in the commune, or if none such is available the law obliges the commune to appoint at least one medical man to the post with or without a competitive examination. When a commune is unable by itself thus to provide gratuitous medical attendance for its poor it may combine with one or more of the neighbouring communes for that purpose. The respective communes entering into such a union or *consorzio*, as it is called, elect representatives in proportion to their population and taxation to form a *consiglio consorziale* the duty of which is to administer the sanitary affairs of the union.

An uninterrupted occupancy for a period of three years of the office of *medico condotto* is necessary under the present law to enable the holder to acquire fixity of tenure, and after the lapse of that time the communal council has no power to dismiss him except for reasons approved by the prefect acting on the advice of the provincial council. Against such dismissal the *medico condotto* has a right of appeal to the Minister of the Interior. The first three years of service are thus regarded as a period of probation during which the communal council may exercise its right of dismissal without necessarily assigning any reason. Before the expiry of the three years the council must hold a special meeting and decide by vote whether the services of the *medico condotto* are to be retained or not. Should the decision be favourable his position becomes *ope legis* established. The salary given by a commune to the *medico condotto* varies from about 1500 lire (£60) to about 2500 lire (£100) per annum. Although the remuneration is so poor there is no lack of candidates for vacancies. Country practitioners in Italy being numerous and badly paid these posts are eagerly sought after, the more so for the reasons that those holding them are free to engage in private practice and that after a certain period of service they become entitled on retirement to an indemnity or to a pension. The pension is granted to those who have been in effective service for 25 or more years and likewise to those who through wounds or illness contracted in the discharge of their official duties have been incapacitated for further service at any time after their three years of probation. The indemnity is accorded to those who after ten or before 24 years' effective service are unable to discharge their duties on account of illness contracted from causes other than those above mentioned or who have passed into other departments of the Government service. The pension or indemnity is supplied by a fund formed by various contributories, including the communes, benevolent institutions, and the *medici condotti* themselves, as well as by donations and bequests. To secure the minimum amount of pension the *medico condotto* must contribute 60 lire (£2 8*s*.) per annum during the whole period of his service together with a further contribution during each of the first ten years of 72 lire (£2 17*s*.). This amount is obligatory upon every *medico condotto*, but he may contribute 100, 140, or 180 lire per annum and thus secure a higher pension. Thus, after, say, 25 years of service one who has paid the minimum premium to the pension fund is entitled to an amount varying, according to his age, from 506 lire (at 47 years) to 2500 lire (at 77 years) per annum. By contributing the higher annual payments he becomes entitled to a pension one-third or two-thirds greater or twice as great respectively, but in no case may the amount of it exceed 5000 lire (£200) per annum.

A Bill, already approved by the Chamber of Deputies, is now awaiting the assent of the Senate, which modifies in several particulars the law as it stands at present. Of the proposed modifications the most important are the following: (1) The appointment of the *medico condotto* must be made by a commission nominated by the provincial sanitary council after competitive examination and not as at present by the communal council; (2) the time necessary to acquire fixity of tenure is reduced from three to two years; and (3) the dismissal of the *medico condotto* must be agreed upon three months before the lapse of the probationary period. These changes are strongly opposed by the medical profession in Italy who want the power of appointment to be retained by the communal council and contend that fixity of tenure should be assured from the day of appointment and that the period of probation should be entirely abolished. In the case of unions it is pointed out that on the plea of reorganising the sanitary service the *consiglio consorziale* has the power to rid itself of its medical officer at a moment's notice without any pretext whatever by simply dissolving the union. In such circumstances the *medico condotto* would lose his position even after having served the time necessary for gaining his fixity of tenure, and this without receiving any compensation. As to the question of dismissal, it is urged that this should be determined only upon grounds of a serious nature which the *medico condotto* should be given the opportunity of disputing and that a right to appeal to the provincial council should be allowed to him. A demand is further made that annual leave of absence for a reasonable time should be granted to him. It is understood that the new Ministry which has come into office since the Bill passed the Lower Chamber regards the proposed modifications with favour and it is hoped that these and other suggestions for improving the measure which have been recommended by the council of the *Ordini dei Medici* will be adopted by the legislature. The result of the change would be a considerable amelioration in the position of the over-worked and under-paid *medico condotto* whose lot at present is not a happy one.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Matters.

THE annual meeting of the court of governors was held on Jan. 28th, the Chancellor, the Right Hon. Joseph Chamberlain, presiding. The pro-Vice-Chancellor, in moving the adoption of the report and balance-sheet, alluded to the fact that further annual income would shortly be required, as large sums would have now to be paid out of capital for the construction of the new buildings in process of erection. Sir Oliver Lodge, the Principal of the University, in seconding the motion, stated that a small deputation was shortly to meet the Chancellor of the Exchequer with a view of endeavouring to induce him to increase the grants at present given to University Colleges. He also alluded to the urgent need of residential hostels in connexion with the University. The Chancellor laid stress upon the fact that Government assistance ought not to dispense private individuals and local authorities from their duty of providing funds for university purposes. He drew attention to the fact that whilst Staffordshire and Worcestershire gave annual subventions to the University Warwickshire, in which the greater part of the city is situated, had as yet subscribed nothing. He also alluded to the larger boroughs and municipalities in the neighbourhood and hoped that they too would recognise the propriety of making annual grants towards the funds of the institution. Contrary to general expectation no person raised the question of the vivisection licences which the University has recently obtained. It is to be supposed that

the anti-vivisectionist party is convinced of the uselessness of maintaining the local conflict any longer. On Feb. 4th Sir Oliver Lodge delivered the first of his four lectures on physics and therapeutics to an audience of medical men representative of the whole of the Midlands and numbering more than 300. The lecture, which was illustrated by lantern slides and by numerous experiments, dealt, after some introductory remarks, chiefly with the subject of the cathode rays and with radium and other substances of the kind. A new substance named polonium was exhibited the emanations from which can be deflected by the breath, so as to discharge the electroscope. On Feb 5th a special address was delivered to the Anatomical and Anthropological Society by Professor A. M. Paterson of the University of Liverpool who took for his subject the Morphology of the Sternum. The audience, over which the President of the society (Profe-sor B. C. A. Windle) presided, was much interested in the address and in the numerous specimens with which it was illustrated, and a vote of thanks was passed to the lecturer on its termination.

Guest Hospital, Dudley.

A meeting of ministers of religion has recently been held at the Guest Hospital and in combination with the board of management of that institution with the object of inquiring how it is that the sums subscribed on Hospital Sunday have so much fallen off and that in a number of churches and chapels no collections are made for this purpose. The Rev. Mr. Warren, a Congregationalist minister who recently came to Dudley, seems to have stirred up discontent with the arrangements made in past years for the religious visitation of the patients, though these arrangements appear to have worked smoothly enough for a number of years. At the meeting in question this gentleman stated that the arrangements alluded to were the cause of the falling off in the subscriptions and that he and others would not help the hospital until Nonconformist ministers were admitted to the hospital on terms of perfect equality with others. As a matter of fact there is at present an Anglican chaplain, though his services are, so far as the hospital is concerned, honorary. There has been such a chaplain for over 30 years and his visiting days have been Tuesdays and Fridays. Some years ago the Free Church Council asked to be allowed to appoint a minister to visit the hospital. This request was complied with and Mondays and Thursdays were allotted to him as visiting days. Wednesdays and Saturdays being the general visiting days it was obvious that there was not much choice left in this matter. Of course, it goes without saying that any patient is allowed at any time to see the clergyman of his choice should he specially request to do so and circumstances permit. Mr. Warren, however, complained that the days allotted for visiting to the Nonconformist minister were those devoted to the cleaning of the wards, which were often in a state of confusion. He also stated that he had been denied admission by the acting chaplain, a statement which has been contradicted. Finally, he contended that Nonconformist ministers should have the right of holding a service once a week as the chaplain at present does. Since the meeting alluded to the matter has been further discussed by the weekly board, a proposition having been made that a Nonconformist chaplain should be appointed in addition to the Anglican. This proposition, after being fully discussed, was rejected by a large majority.

Bathing Statistics in Birmingham.

1903 was not a year in which bathing was greatly encouraged by climatic conditions, but in spite of that fact a very large number of persons availed themselves of the corporation baths during the last nine months. According to a return prepared by the superintendent 330 790 bathers attended the baths exclusive of the Green-lane Bath and the two open-air swimming-baths, being an increase on the corresponding period of the previous year of 22 410. The receipts have correspondingly increased by £84. The return for the whole of the corporation baths shows an increase of 109 585 and of £803 in the receipts. The Green-lane baths, which have largely added to the figures, were, however, not opened until November, 1902. During the past year 67,048 boys from the elementary schools were admitted to the corporation baths as compared with 33 017 during 1902 and 826 boys succeeded in passing the swimming test as against 590 in the previous year.

Feb. 7th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

University of Manchester.

A MEETING of the court of governors of the University of Manchester was held on Feb. 4th in the council chamber of the Owens College. The Vice-Chancellor (Dr. Alfred Hopkinson) presided. He said that the special object of the meeting was to obtain the assent of the College Court and the University Court to a Bill now being promoted in Parliament for merging the corporation of the Owens College in the Victoria University of Manchester, the latter being the same corporate body which was founded by Royal Charter in 1880, though its constitution had been modified. The officials of the University would remain in office. Lord Spencer is willing to remain Chancellor of the University. The Duke of Devonshire, the President of the Owens College, would become President of the Victoria University of Manchester and, in the absence of the Chancellor, would preside at meetings and confer degrees. He hoped that the Duke of Devonshire would accept the office. The arms of the College, it was suggested, should be the arms of the University, "and in all respects there would be a complete merging of the College in the Victoria University." A motion approving of the Bill was passed. The Vice-Chancellor then left the chair which was taken by Mr. Alderman Thompson, chairman of the governors of the Owens College. A motion similar to that just adopted by the University Court was passed by the governors of the College. Mr. Alderman Thompson then left the chair which was again occupied by the Vice-Chancellor and the proceedings of the University Court were resumed. When these somewhat Gilbert-and-Sullivan-like performances had been satisfactorily accomplished the Faculty of Medicine came on to the stage and Professor Stirling proposed a motion upon the constitution of the Faculty of Medicine whereby it was agreed that in addition to the professors of the subjects taught in the medical school and the assistant lecturers —Mr. J. Grier, Dr. I. Walker Hall, Mr. J. E. Platt, Mr. E. J. Sidebotham, and Dr. R. T. Williamson—the Faculty shall consist of the following: (1) Professor H. B. Dixon, Professor S. J. Hickson, Professor W. H. Perkin, Professor A. Schuster, and Professor F. E. Weiss; (2) Dr. H. Ashby, Mr. G. W. Mould, Mr. J. Collier, Mr. W. Thorburn, Dr. C. E. Glascott, Dr. Lloyd Roberts, Dr. J. Niven, Dr. H. A. G. Brooke, Dr. A. Hodgkinson, Dr. W. Milligan, Dr. E. S. Reynolds, Dr. A. K. Gordon, Dr. T. Harris, Dr. Graham Steell, Dr. J. S. Bury, Mr. W. P. Montgomery, Dr. J. Scott, and two members to be nominated by the dental committee; and (3) Dr. F. C. Moore, Dr. A. W. W. Lea, and Dr. W. E. Fothergill. Dr. Clegg seconded the motion and it was passed. On the motion of Professor Hickson, seconded by Mr. Alfred Haworth, it was resolved that the period of office of each Dean of Faculty should be one year and that the Dean should be eligible for re-election. The addition of two gentlemen to the advisory committee of the "newly fledged" Faculty of Theology and of four additional governors was made and the Vice Chancellor then said "it had been arranged that the public meetings of the University should now conclude with a formal sentence in Latin which would show that the business was over. The words suggested by the new professor of Latin were: 'Salva sit Universitas nostra Mancuniensis: hoc precantes consurgamus.'"

The Royal Infirmary.

The report of the Manchester Royal Infirmary just issued shows that the change from the old to the new has really begun. It may be remembered that the corporation agreed to pay £400,000 for the present site in Piccadilly. The first instalment of £100,000 has now been received. The formal conveyance of the Stanley-grove site from the Owens College to the infirmary is almost completed. The board has enlarged the new site by the purchase of three houses in Nelson-street which gives a frontage in a good street at right angles to Oxford-road. It has also arranged for the relinquishment by the Manchester Southern Hospital of a further piece of ground on the payment by the board of £18,500 and it has agreed to pay £6000 to the Owens College in compensation for the expense involved in the removal of its bacteriological laboratory from Stanley grove and towards the acquisition of a suitable adjacent site. 56 architects wished to compete for the building of the new infirmary and of these 12 were selected by Mr. J. J. Burnet, the

assessor recommended by the president of the Royal Institute of British Architects. Their designs are now receiving careful consideration. As soon as the plans are decided on the board will consider if any, and if so what, provision for accident and urgent cases and out-patients shall be made in the centre of the city. In the new infirmary there are to be 500 beds with provision for 600 and in connexion with it there is to be a permanent memorial of the late Queen. For this purpose the sum of £13,178 9s 7d has been received from the committee of the Queen Victoria Commemoration Fund. During the past year there has been great pressure on the accommodation, 5199 patients being treated in the infirmary, 38,964 as out-patients, 1548 as home patients, and 1707 at the Barnes Convalescent Home. The income of the infirmary for the past year was £24,755 and that of the Barnes Hospital was £2797, while the expenditure of the former was £19,782 and of the latter £6617.

Small pox at Stretford.

Stretford, the close neighbour of Manchester, has had an outbreak of small-pox which threatened at one time to assume serious proportions. At the last meeting of the district council Dr. W. J. Heslop, the medical officer of health, was able to say that it had ceased and that no case had been notified since Jan. 2nd. It is pleasant to know that the exertions made to limit the outbreak have been appreciated, for as one of the members said at the meeting, "the sanitary committee, Dr. Heslop, and those who worked so well with them were deserving of the thanks of the district for their exertions which had proved so successful."

Mussel Poisoning.

A case of death after eating boiled mussels came before the Bolton coroner last week. A man sat down with his family to tea, at which they had boiled mussels. He almost immediately had symptoms of poisoning and died in 15 minutes. No details are given but the medical man is reported to have said that it was not a case of ptomaine poisoning, that the mussel was not bad, that mussels might appear perfectly fresh and yet be poisonous, and that the poison was naturally developed in the body of the mussel itself. This is, of course, something distinct from their unwholesomeness when impregnated with copper. The explanation of one mussel among the millions eaten producing such startling and deadly effects has not yet been given.

Hulme Day Nursery.

One of the factors in the production of the heavy infantile death-rate of our towns is the necessity which compels so many women to leave their young babies in the charge of old women past work, while they themselves go out to earn their daily bread. Sometimes these caretakers are worthy of the trust but they are often careless and generally ignorant. Eleven years ago the Hulme Day Nursery was founded, largely through the efforts of the late Dr. Haden Guest, to lessen the evil as much as possible, and the annual meeting was held on Feb. 1st, the Lady Mayoress presiding. For 3*d* per day a child is taken into the nursery, fed, washed, and cared for between the hours of six in the morning and six in the evening. Only those are admitted whose mothers have to go out to work and the children of widows have the precedence. Last year there were 2358 attendances, rather fewer than in the previous year, but this was due to lack of work and not to loss of popularity of the nursery. The total receipts were £189 and a credit balance of £16 was left. In seconding a vote of thanks to the officers the Rev. J. Lightfoot, rector of St. Michael's, Hulme, said, with too much truth, that the district was fast becoming the most squalid, most thickly populated, and most neglected part of Manchester. In this large district, containing about 100,000 people, there is not "a single open space where the children can play. We are badly lighted, badly drained." There are very few large employers who can do much for the people and Hulme does not seem to have become fashionable among the philanthropic workers who have flocked into Ancoats and Angel Meadow, which are not "more in need of help, more poverty-stricken in every sense of the word, than certain parts of Hulme." It may surely be hoped that his appeal will be followed by good results. It is a district which would be greatly benefited by the establishment of more cottage baths and wash-houses and more day nurseries.

Feb. 9th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Insanitary Elementary Schools.

THE managers of voluntary schools appear to have been dealt with very tenderly by the Board of Education, which does not seem to have been very insistent upon the managers making structural alterations which would have improved the sanitary condition of certain schools. The result is that in many places when county councils have required an inspection of these non-provided schools as they are now called a very unsatisfactory state of affairs has been revealed. In Pembrokeshire among 68 schools reported upon it was found that four actually required to be rebuilt before they could be considered fit for use, eight required to have more than £200 spent upon them, 24 more than £100, and upon the remainder it was necessary to spend sums varying from £5 to £50. The chairman of the county education committee stated that a few schools were in a condition too revolting to have details disclosed—they were simply shocking. In some parts of North Wales the same unsatisfactory conditions are to be found and on Feb. 3rd the Flintshire county council passed a resolution calling the attention of the Board of Education to the state of many of the elementary school buildings in the county, especially with regard to the structure and sanitary arrangements. One member of the council attributed the frequent epidemics in the county to the insanitary condition of some of the schools. He stated that during five years six schools had been closed for 64 weeks owing to outbreaks of scarlet fever, measles, or diphtheria.

Victoria Hospital, Frome.

The handsome buildings of the Victoria Hospital at Frome were erected in 1901 to commemorate the Diamond Jubilee of Queen Victoria. The usefulness of the institution is now well established and the managing committee has reason to be thankful for the support given to it by the townspeople and others. There are 16 beds in the hospital and more than 100 patients were treated in the wards during 1903. The expenditure for the year was £766 and the income was £879.

West Wales Sanatorium.

When the scheme for the erection of a sanatorium for consumptive patients was first brought forward it was confidently expected that the county councils of Carmarthenshire, Cardiganshire, and Pembrokeshire would each contribute towards the erection of the building, following the example of other counties, notably that of Westmorland. This anticipation has not been realised in the case of the Pembrokeshire council, for on Feb. 2nd it was decided, upon the recommendation of the finance committee, not to make any grant in aid of the proposed institution.

Death in a Bath.

The necessity for having a bell in a bathroom has been once more illustrated at Swansea, where a woman, 50 years of age, was recently found dead in a bath. At the inquest which was subsequently held Mr. J. Lloyd Jones expressed the opinion that the deceased woman had vomited into the bath, had become faint, and falling on her face was asphyxiated. If this was actually the case (and there is no reason to think otherwise) she would probably have been able to ring a bell for assistance had one been provided. An admirable form of bathroom bell has been installed at the Newport and Monmouthshire Hospital where the bell rings in a nurse's or attendant's room and continues ringing until a cord is pulled outside the bathroom door so that the possibility of the signal being neglected is very remote.

Newport and Monmouthshire Hospital.

The directors of the Newport and Monmouthshire Hospital, in which there is now accommodation for 100 patients, have of late years been able to keep their expenditure well within their income, but in their report for 1903 they have to record a loss upon the year's working of nearly £300 due apparently to a falling off in the income derived from general subscribers. It is satisfactory to find, on the other hand, that the working classes display an increasing interest in the hospital, for the subscriptions to the workmen's fund, which in 1901 amounted to £1200, have increased to £1450 last year. The men employed by one firm contributed as much as £209. The rules of the institution have

been so altered that the subscribers to the fund are entitled to one representative upon the board of directors for each £200 contributed. The hospital is so well arranged and the new buildings are so well equipped with modern appliances that there should be no difficulty in obtaining additional support from the inhabitants of the town which is rapidly increasing both in size and in prosperity.

Discovery of Neolithic Human Remains.

Mr. St. George Gray, the curator of the Taunton Museum, has just examined, at the request of the Somerset Archæological Society, a human skeleton which has been discovered in Gough's Caves at Cheddar. Mr. Gray believes the remains to be those of a cave-dweller who lived between the Palæolithic and the Neolithic ages. The skeleton, which was found between two layers of stalagmite, belonged to a man who was 5 feet 3 inches in height. Flint implements of the type used by cave men were near the skeleton.

Infectious Diseases and Dockyard Employés.

Rear-Admiral W. H. Henderson, superintendent of Devonport Dockyard, on Feb. 2nd issued an order that when workmen have infectious diseases in their families they are not to go to the dockyard to draw their pay but are to arrange with fellow workmen to get it for them. Previously when there has been infectious disease in the house of an employé he has not been allowed to work in the dockyard but he has not been stopped from drawing his wages personally.

Feb. 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Shell-fish on the Coast of Ireland.

AN interesting and important report has recently been presented by the Local Government Board to the Lord Lieutenant of Ireland dealing with the conditions under which edible shell-fish are cultivated. The result of inquiry shows that "shell-fish are at present laid in places on the Irish coast which are grossly polluted and that there is a comparatively large number of layings the purity of which is open to doubt." Referring to Dublin Bay it is said that the total output of oysters from it and the Malahide inlet is about 25,000 000 while as many as 100,000 are sent from the beds each week. Dr. T. J. Browne states his opinion "that all the shell-fish in Dublin Bay are more or less subject to contamination," while Mr. D. Edgar Flinn considers that it is a question of importance whether shell-fish may not have played a part as one of the causes of enteric fever in Dublin. At various times during the past few months personally collected samples of cockles and mussels from Dublin Bay have been pronounced to be sewage-polluted by Professor E. J. McWeeney and he expresses the opinion that the gathering of shell-fish (cockles) within the estuary situated at Clontarf should be discontinued until the sewerage of this populous district has been dealt with. The Local Government Board recommends that the whole question of the cultivation and sale of shell-fish should be made a matter of special legislation.

The Ulster Medical Society.

At the fourth general meeting (session 1903-04) held in the Medical Institute, Belfast, on Feb. 4th a motion was unanimously passed, proposed by Dr. Thomas Houston and seconded by Dr. H. O'Neill, supporting the resolutions sent to His Majesty's Government by the council of Queen's College, Belfast, with reference to the better equipment of that college. Dr. J. C. Martin (Portrush) showed a pathological specimen of Atheromatous and Aneurysmal Condition of the Abdominal Aorta and Iliac Arteries taken from an elderly male patient and gave details of the case. Mr. A. B. Mitchell opened a discussion on the Surgical Treatment of Malignant Tumours of the Breast, illustrated by a number of cases and a lantern demonstration of numerous photographs and microscopic preparations. Details of 30 cases were given, with remarks on diagnosis, prognosis, methods of operation, &c., and the question of subsequent recurrence. In the discussion which followed Professor T. Sinclair, Dr. Charles Kevin, Professor J. W. Byers, Dr. Martin, Mr. Robert Campbell, Dr. James Lynass, Sir William Whitla, and Professor J. A. Lindsay took part. Mr. Mitchell also showed a man on whom he had performed Subperiosteal Resection of the Clavicle with every movement of the shoulder girdle preserved.

Influenza in Belfast.

At present there is a widespread epidemic of influenza in Belfast, the main symptoms being sudden onset, high fever, general aching, and a laryngeal cough. The depression afterwards is not so marked as in previous attacks.

Fever-stricken Arranmore.

The island of Arranmore, which lies a few miles off the Donegal coast, with its inhabitants of about 2000 (mostly fishermen and small farmers), has achieved an unenviable notoriety for its severe epidemics of typhus fever during the past few years. It was from fever contracted in this island, when conveying fever-stricken patients to the mainland, that Mr. William Smyth lost his life. Dr. B. MacCarthy, medical inspector of the Local Government Board, brought before the notice of the Glenties rural district council on Feb. 6th the condition of many of the houses on the island which revealed a terrible state of affairs. The Congested Districts Board, which owns the island, has made most generous offers to the inhabitants to improve their miserable dwellings and, acting wisely, on the suggestion of the medical inspector, the Glenties rural district council has decided to serve notices on those who have insanitary houses to put them in order and to urge those people with insanitary houses to avail themselves of the offer of the Congested Districts Board.

The Belfast District Lunatic Asylum.

From the report of the inspector of lunatics (Sir G. O'Farrell), presented to the committee on Feb. 8th, it appears that the health statistics are satisfactory but that the parent asylum in Belfast is overcrowded and no provision has yet been made for the treatment of acute and special cases. It is hoped that the committee will proceed with the erection of such buildings as will provide sufficient and suitable accommodation for all the patients under its charge. At present there are 507 male and 565 female inmates—total, 1072; on the asylum register at Belfast, 720; at Purdysburn, 290; and at Ballymena annexe, 62.

Royal Victoria Hospital, Belfast.

The Right Hon. Thomas Sinclair, D.L., of Hopefield, Belfast, and his family have given £1000 to endow two beds in the "Sinclair" ward of the Royal Victoria Hospital, Belfast, to be called "Sarah Archer Sinclair" and "Elizabeth Ivan Sinclair."

Queen's College, Belfast, and the Royal Victoria Hospital, Belfast.

The Lord Mayor of Belfast (Sir Otto Jaffe) has intimated his intention of presenting a 60 milligramme tube of radium to the Queen's College, Belfast, with the stipulation that it should be available in the Royal Victoria Hospital for use there and should be brought to the College for demonstration as required. The cost is £63 and probably at the time of delivery it will be worth £100.

Feb. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Elastic Springs as Labour-saving Agents.

SINCE the time that human muscular work has been studied by the same methods and in accordance with the same laws as in the case of mechanical motors more attention has been given to the question of output and to the maximum utilisation of work with the minimum expense. M. Marey showed 20 years ago at the Academy of Sciences that in the work of traction there was a considerable saving of labour when inelastic cords or connexions were replaced by springs. Experimenting with a man fastened to a small cart and drawing the same load at the same speed for the same distance he compared the effect of traction by means of a rope with traction by means of an elastic apparatus and obtained accurate measurements with a dynamometer. He found that in the latter case there was a saving of 20 or 25 per cent. During the present week two captains in the artillery, MM. Machart and Ferrus, have made known the results of experiments which they have for 18 months been conducting on the drawing of artillery by horses. They found that when the same horses drew the same carriages over the same distance

and in the same time an additional load of one fourth or one-fifth could be carried when springs were employed. Following up this idea M. Breuillard has shown before the Therapeutical Society a small appliance which he has called a "calcanette." It is slipped into the boot or shoe under the heel and is merely a spring on which the heel rests when the foot is placed on the ground and which tends to lift the heel when the foot is raised. This little appliance in no way inconveniences the wearer who very soon becomes accustomed to it. It is a great assistance in the act of walking, reduces fatigue, and permits the same amount of work to be done with much less effort. It will render much service to Alpine climbers and especially to soldiers. It is about to be tried in the army.

New Rules for the Competition for the Position of Hospital Physician.

The system on which these competitions are conducted has long been considered by everybody to be unsatisfactory; it has several times been remodelled and has just undergone a new transformation. It is to be hoped that this will be final and it must be admitted that the new regulation is drawn up in such a way as to insure all possible impartiality in the work of the jury. Hitherto it has always been the case that a member of the jury might in complete security procure the nomination of one of his pupils by having a mutual understanding with other jurors who were doing the same thing but this will now be impossible. The competition will for the future be in two parts and there will be two examinations, each with a different jury, no member of the first jury taking part in the second. The first examination confers on those who pass it the right of "admissibility" for five years and only such candidates are eligible for the second examination. For the first examination two written papers and a report of a patient's case are required. Of the written papers one is on a subject of pathological anatomy, pathological physiology, or bacteriology; the other is on a question of symptomatology, diagnosis, or therapeutics. The jury is divided into two portions by the drawing of lots and each of these portions decides separately with respect to one of the written papers. The report on the patient's case is considered by the whole jury. The second examination is also decided by the new jury as a whole. It consists in making a clinical report on a patient's case. The candidate is allowed 15 minutes for examining the case and an equal time for giving his opinion on it to the jury orally after five minutes' consideration. The number of candidates declared admissible at the close of the first competition is to be such that the candidates for the nomination competition shall not exceed twenty.

The Treatment of Tuberculous Arthritis.

Professor Lannelongue devised, some years ago, an original method of treatment for tuberculous affections of the joints which he called *méthode sclérogène*. The object of the treatment was to transform the tuberculous tissues into fibrous tissue by the injection into them of a few drops of a 10 per cent. solution of chloride of zinc. Professor Lannelongue obtained numerous successful results by this method and it has now been improved upon by one of his pupils, M. Villemin, who, previously to the injection of the zinc chloride into the tissues around the joint, injects into the joint cavity, three days before using the chloride, some iodoform. By this means the tuberculous articulation is treated both inwardly and outwardly. M. Villemin has met with great success and at the meeting of the Academy of Medicine held on Feb. 2nd he read a paper on his cases. Professor Lannelongue, who was present, agreed with M. Villemin and in reply to those who objected that the method was one requiring extreme delicacy he replied as follows. It is true that to inject the chloride of zinc only into the tuberculous tissues and not into the joint cavity, where it would set up acute inflammation, requires a certain dexterity, but this is very easily acquired. The great point is not to hurry the procedure and not to expect the joint to recover its functions too soon. Three or four months must elapse before the tissues can be considered normal and five months must be allowed to pass before the patient is allowed to use his joint. If any stage of the treatment is hurried, or if forced movements are employed with a view to avoid the formation of adhesions, an acute inflammation may be set up which will undo all the good already acquired. M. Villemin has treated nine patients by this method with perfect success.

Feb. 9th.

Obituary.

GEORGE THIN, M.D. ST. AND., L.R.C.S. EDIN.

Dr. George Thin, whose death took place at Nice at the end of last year after an illness of more than a year's duration, was educated at Edinburgh, taking the L.R.C.S. in 1858, and two years later the M.D. of the University of St. Andrews. After obtaining his qualifications he practised in Scotland, but in a very short time he proceeded abroad to Shanghai, where he was engaged in practice for some eight years. During this period he gained an extensive experience in all forms of tropical disease, an experience which with ripened judgment in after years brought him considerable fame in this branch of medicine.

In 1873 Dr. Thin returned to England and decided to settle in London where he practised for the remainder of his life. In the early part of his career at home he devoted considerable time to the study of dermatology, proceeding to Vienna and other places in order to acquire knowledge of this subject. The experience gained from practice in this field led him to contribute many papers to the medical journals and in addition he published a monograph on "Cancerous Affections of the Skin" and a book on "Ringworm." But Dr. Thin's chief interest lay in the direction of tropical disease and he worked with enthusiasm in this field of medicine at a time when no attention was paid to the subject by the public or the medical profession. His acquaintance with tropical disease gained in China and confirmed by much after-study both abroad and at home rendered his name well known to those who had been resident in hot climates. The disease to which he paid most attention was sprue and he published a valuable book on this subject entitled "Psilosis or Sprue" which won him wide recognition. To Dr. Thin it was largely due that the exclusive milk diet treatment of this disease has obtained such wide and deserved acceptance. A large part of his professional life was occupied in advising banks, corporations, and steamship companies doing business in the East and in this capacity a great many candidates for posts abroad passed through his hands and his skill in this special branch of medicine was remarkable.

From his earliest professional life Dr. Thin was a diligent student of the microscope and even when health began to decline and age to creep on he still took a deep interest in the subject. In all his work there was the impress of patience and thoroughness. His intellect was strong and incisive. If his manner appeared to some distant and reserved it was simply because he was a sceptic in the best sense of the word and was naturally incapable of taking anything on trust that admitted of proof. But below this cautious manner there was a thoroughly high-minded personality, perfectly honest and just. He was a man with few close friends but when he did give his confidence it was lasting. For more than a year his health had failed and he was compelled to give up all professional work in the hope that rest might enable him to live. But in December he became steadily worse and he died at Nice on Dec. 27th of last year.

DAVID THOMSON PLAYFAIR, M.D., L.R.C.P. & S. EDIN.

BY the death of Dr. David Thomson Playfair, which occurred suddenly at Bournemouth on Feb. 1st, the medical profession in Bromley, Kent, loses one of its best-known members. Dr. Playfair was the elder son of the late Rev. David Playfair of Abercorn, N.B., where his early years were spent. He was educated chiefly at the old collegiate school, Edinburgh, and at Blair Lodge. His medical education he received at the University of Edinburgh under Tait, Crum Brown, Turner, Spence, Lister, and other distinguished men.

On leaving Edinburgh he spent some time in Paris and also at Leipsic and Tübingen. After qualifying he resided as assistant physician at Sunnyside Asylum, Montrose, and afterwards at the Royal Albert Asylum, Lancaster, and he at one time thought of taking up the study of mental disease in a special way, but a favourable opportunity of entering a practice at Bromley presented itself and he settled down there, where he spent the remainder of his life. Dr. Playfair

was for some 24 years in Bromley, being at first in partnership with Messrs. Hughes and Willey, and for the last 17 years with Dr. John Scott who was his partner until his death. In local politics he took no part but in matters connected with his profession he always took a very keen interest, as well as in those associated with science or with music. He was on the staff of the Bromley Cottage Hospital almost since his first going to Bromley and on the committee of that institution for many years. He was for a long time a member of the Bromley Naturalists Society and he was one of the founders, and for some years president, of the Bromley Musical Society. He always kept up his early love of botany and possessed a very large and complete herbarium. He was a good photographer and a clever mechanic, as well as an enthusiastic sportsman, having considerable skill both with rod and gun. As a physician his well-trained powers of observation stood him in good stead and gave him a keen insight both into disease and into human nature and he was very successful both in diagnosis and in treatment.

As a surgeon he was a rapid and skilful operator, his having long been addicted to many mechanical pursuits giving him much facility in the manipulative side of the surgical art. Dr. Playfair was twice married, his first wife dying on March 31st, 1894, and on April 30th, 1902, he was married to Miss Annie Seaton Winton, only daughter of Mr. Edwin W. Winton of Etherton-hill, Speldhurst, near Tunbridge Wells. Dr. Playfair had been in failing health for some months, heart trouble—complicated by an attack of appendicitis—having kept him entirely to his house until a very few weeks before his death, when he went to Bournemouth in the hope of regaining strength. During the day of Feb. 1st he had been much as usual but shortly after retiring to rest he had a sudden attack of heart failure and passed away quietly in a few moments. He was buried at Edinburgh on Saturday, Feb. 6th, there having been a service in the Bromley parish church on the previous evening, at which the large attendance of all classes—the church being full to overflowing—attested to the esteem in which the deceased was universally held.

GEORGE COLVILLE MILLIGAN, M.A., M.B., C.M. ABERD.

REGRET for the death of Dr. G. C. Milligan will be felt by a wide circle of his friends both in the British Isles and in Switzerland, where he was assistant at one time at the Belvedere Sanatorium, Davos-Platz. The deceased gentleman had not been in good health for some considerable time, but up to within a few days of his death, which took place on Jan. 23 d, he was visiting his patients and following his profession with zeal. Dr. Milligan was the eldest son of the Rev. P. Milligan, minister of Guthrie. He received his education at the University of Aberdeen, where he graduated M.A. in 1884. In 1888 he took the M.B. and C.M. degrees of his university and subsequently went to Forres as an assistant to Dr. G. L. H. Milne whose practice he afterwards acquired. His *clientèle* was a large one and in addition to his private practice he held the post of medical attendant at Cluny Hill Hydropathic Establishment and was surgeon at Leanchoil Hospital, Forres. Ill-health compelled him to spend his winters in Switzerland and for many years he practised alternately in Scotland and at Davos-Platz. Dr. Milligan was held in the highest esteem and regard by all who knew him. He was a keen sportsman, took an active interest in golf, and was enthusiastic in the national game of cricket, besides being a capable exponent of tennis. In all of these games he took more than an academic interest for he recognised their value as agents in the maintenance of health and participated in them with the knowledge of an expert. He leaves a young widow and one son to mourn their loss, for whom the deepest sympathy will be felt.

DUNCAN CAMPBELL LONGDEN, M.B., F.R.C.S., D.P.H. EDIN., M.R.C.S. ENG.

Dr. D. C. Longden died in London at the house of his brother, Mr. E. W. Longden, on Jan. 18th, at the early age of 37 years. His medical education was obtained in Edinburgh and while a student he gained various prizes and honours, including in 1886 the gold medal scholarship in anatomy at the Royal College of Surgeons. He graduated at the University of Edinburgh as M.B. and C.M. in 1887, and was appointed by Dr. J. Macdonald Brown to be senior demonstrator of anatomy at Surgeons' Hall. Thenceforward he devoted his entire energies to anatomy and his labours at Surgeons' Hall not only won for him the esteem of his colleagues but the admiration of the numerous students who attended the classes during the succeeding three years. In 1890, owing to ill-health, he was reluctantly compelled to resign his position, and at a smoking concert given in his honour he was presented by the students with an address and a gold watch. In 1891 his health improved considerably and for the ensuing two years he lectured on anatomy in the School of Medicine for Women in Edinburgh until he was obliged by a recrudescence of chest symptoms finally to abandon teaching and to go abroad. In 1894 he proceeded to St. Helena, where he resided for six months. During the next five or six years he acted as a surgeon in the British India Steamship Company's Service and in that capacity made frequent passages to India and to the Cape of Good Hope. In 1900, while at the Cape, he obtained permission to leave his ship and was appointed medical officer for the Boer refugee camp at Barberton, Transvaal. He remained there until March, 1903, when he returned to England. Although gradually becoming weaker and weaker he was nevertheless able to appear at Buckingham Palace in November last when he received the Transport Service medal at the hands of the King. The funeral took place on Jan. 21st at Kensal-green Cemetery. Dr. Longden was a man of singular gentleness of disposition, a brilliant teacher, a sound anatomist, and a faithful friend.

WILLIAM HUTCHISON, M.D. ST. AND., L.F.P.S. GLASG.

Dr. William Hutchison, who died at his residence at Brightlingsea in Essex on Jan. 32rd, saw a good deal of military life in his early days. When he became qualified as L.F.P.S. Glag. in 1854 the Crimean war was in progress. Having volunteered for medical duty he served as a civil surgeon on the medical staff and did much useful work in attending the wounded. He was present at the battles of Alma, Inkerman, and Balaclava, as well as at the siege and fall of Sebastopol. After the war he spent some time in long sea voyages. Returning to England he practised in Loughborough, Leicestershire, for many years and was on the staff of the Loughborough Hospital for a long period. In 1862 he graduated as M.D. at the University of St. Andrews. During the Franco-German war in 1870 Dr. Hutchison and his wife took an active part in the collection of clothing and money in Loughborough on behalf of the Red Cross Society, which was at the time sending ambulances and stores to the continent for the relief of the wounded. An account of a case of stricture of the rectum under his care in the Loughborough Hospital was published in THE LANCET of June 1st, 1878. About 13 years ago he disposed of his practice in Loughborough and since that time lived mostly at Brightlingsea where he died. Some of his family, however, are resident in Loughborough and it was in the cemetery there that the funeral took place.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Paul Grassnick, formerly Sub-director of the Kaiser Wilhelm Academy for Military Surgeons. He served with distinction in the Franco-German war. He retired a short time ago with the rank of major-general. His age was 69 years.—Dr. Conrad Clar, extraordinary professor of balneology and climatology in Vienna, at the age of 59 years.—Dr. Peypers of Amsterdam, who founded the journal *Janus*, which is devoted to medical history and geography.—Dr. Gustav Neusser, a Cracow alienist.

RESEARCH FELLOWSHIP AT ST. JOHN'S COLLEGE, OXFORD.—This College will shortly proceed to elect as an Ordinary Fellow a person whose attainments in literature, science, or art shall in its judgment qualify him to be a Fellow and who shall undertake, if required, to perform some definite literary, scientific, or educational work in the College or in the University or (under the direction of the College or the University) elsewhere. Applications (together with any evidence of qualification which the candidate may desire to submit) should be sent to the President before Feb. 20th and may include a statement of the work which the candidate proposes to perform if required.

Medical News.

TRINITY COLLEGE, DUBLIN.—At examinations held in Hilary term the following candidates were successful:—

Final Examination in Midwifery.—Charles J. Coppinger, Keith R. C. Hallowes, Richard C. Hallowes, Henry M. Crawford, William M. Wade, Rev. Richard B. Bryan, Cecil J. Wyatt, David C. Pearson, Owen J. Parry-Edwards, Maurice Fitz Fibbon, Harold T. Marrable, Thomas Wilson, and Hugh Stewart.

Section B.—John Cunningham, Robert Magill, John A. Sibthorpe, James H. C. Thompson, and Wilfred L. Myles.

Final Examination in Surgery.—Thomas C. A. Sweetnam, Robert Bailey, Charles E. Moore, Winslow S. S. Berry, Washington P. Tate, John C. Hall, Herbert Stone, and William M. Wade.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following have passed the examination for the Conjoint Diploma in Public Health:—

Joseph P. Dee, M.B.; R. Julyan George, M.B.; C. A. Johns, M.B.; J. M. S. Levis, L.R.C.P. & S.I. (honours); T. J. Nicholl, L.R.C.P. & S.I.; E. M. J. O'Farrell, F.R.C.S.I.; T. Rhind, M.R.C.S., L.R.C.P.; Alex. W. Sampey, L.R.C.P. & S.I., Lieut. R.A.M.C. (honours); and E. J. Tynan, F.R.C.S.I.

FOREIGN UNIVERSITY INTELLIGENCE.—*Budapest:* Dr. Berend has been recognised as *privat-docent* of Pediatry.—*Florence:* Dr. Enrico Gagnoni has been recognised as *privat-docent* of Pediatry.—*Freiburg:* Dr. Fischer has been recognised as *privat-docent* of Physiological Chemistry.—*Greifswald:* Dr. O. Kölpin has been recognised as *privat docent* of Psychiatry.—*Heidelberg:* Dr. F. Kernmauner has been recognised as *privat docent* of Midwifery and Gynæcology.—*Kiel:* Dr. Friedrich Meves, *privat docent* of Anatomy, has been promoted to an Extraordinary Professorship.—*Naples:* Dr. Francesco Capobianco has been recognised as *privat docent* of Physiology.—*Turin:* Dr. Giovanni Ottino has been recognised as *privat docent* of Oto-Rhino-Laryngology.—*Wurzburg:* Dr. Oskar Polano of Hamburg has been recognised as *privat-docent* of Midwifery and Gynæcology.

SOCIETY OF APOTHECARIES OF LONDON: GILLSON SCHOLARSHIP IN PATHOLOGY.—This scholarship, of the annual value of £90, has been awarded to Mr. Leonard Stanley Dudgeon, M.R.C.P. Lond.

A PLEA FOR INCREASED SANITARY POWERS.—At Ystradgynlais on Jan. 20th Mr. D. W. Scott, L.R.C.P., L.R.C.S. Edin., delivered a lecture on health to the members of the improvement society in which he strongly advised the use of "respirators" by miners and those who were engaged in trades that produced a large amount of dust. Sanitary systems had done a great deal to promote healthy conditions of living and he hoped that still greater advances would be made in this direction. Sanitary inspectors needed greater powers to deal with cases of insanitation and all county councils, he thought, should have at least one medical man on their boards to advise them on matters of sanitation. It was time, he said, that attention was paid to the physical condition of the race and he deplored the way in which our soldiers were allowed to go uncared for after their retirement from the army. In conclusion, the lecturer advocated better conditions, particularly for factory hands, better cooking facilities, more reasonable hours of work in every branch of trade, and more leisure all round for the physical and intellectual advancement of the people.

THE HEALTH DEPARTMENT OF NEW YORK CITY.—It is a long time since the city of New York has had a medical man at the head of the health department but Dr. Thomas Darlington has now been selected to fill that important position. He took a special three years' scientific and engineering course at the University of the City of New York before he commenced the study of medicine at the College of Physicians and Surgeons, from which he graduated in 1880. He had two years' experience in his early medical practice at Bisbee, Arizona. He was president of the medical board of the New York Foundling Hospital for two years and is its visiting physician, as also that of the Fordham Hospital, the St. John's Riverside Hospital, and the Seton Hospital for Consumptives, and is consulting physician to the French Hospital. He is vice-president of the Section of Medico-Legal Surgery of the Medico-Legal Society, has been one of its active officers, and received the unanimous support of that society for the presidency of the health department. He was appointed by President Francis of the World's Fair at St. Louis, in November last, a member of the committee on organisation of the International Congress on Tuberculosis and was unanimously elected secretary of that committee.

WORCESTERSHIRE SANATORIUM.—The first annual meeting of the subscribers to the sanatorium at Knightwick for the open-air treatment of consumption was held at the Shire Hall, Worcester, on Jan. 30th, Mr. Wallis Bund presiding. The report of the general committee recorded that during the past 12 months there had been 309 deaths in the county from consumption. At the Knightwick Sanatorium there was accommodation for 16 patients and the results so far achieved had been most satisfactory. Of 22 cases admitted in the early stages three remained under treatment and 19 had been discharged, of whom 18 were following their employment. The results of the more advanced cases were not so satisfactory, many of them being patients who had to wait many months for admission owing to lack of accommodation. The total amount received in subscriptions was £1257. There were now 26 cases in the early stages awaiting admission and through lack of accommodation lives might be lost. Funds were urgently needed for the provision of at least one more pavilion to accommodate eight patients, for which £400 would be necessary. The chairman, in the course of his speech, also referred to the invaluable services of Dr. H. E. Dixey in connexion with this movement.

LECTURES ON MEDICAL JURISPRUDENCE.—On Feb. 4th Dr. F. J. Waldo, coroner for the City of London, delivered the fourth of a series of six lectures before the Council of Legal Education at the Old Hall, Lincoln's Inn, Sir Alfred Marten, K.C., vice-chairman of the council, presiding. Dr. Waldo said that the two standpoints, that of law and that of medicine, with regard to insanity were of a different nature, although both agreed in the absence of any satisfactory definition of the term "insanity." He then described at some length the various types of "medical insanity" from the modern point of view—namely, mania, melancholia, delusional insanity, general paralysis, dementia, and idiocy. One practical fact insisted upon was the necessity of a medical examination of persons of previously blameless life who suddenly committed some offence that brought them into the custody of the police, as it not infrequently happened that the prisoners were not responsible for their actions. The second half of the lecture was devoted to the legal attitude with regard to insanity, chiefly in its particular application to the criminal responsibility of the insane. Lord Hale in 1675 ruled that "if a traitor become *non compos mentis* before conviction he shall not be arraigned; if after conviction he shall not be executed." In 1843 the House of Lords repudiated the old test of sanity as an abstract knowledge of right and wrong and substituted a knowledge of right and wrong as regards the particular crime of which a person was accused.

THE MANCHESTER LADIES' HEALTH SOCIETY.—The annual meeting of this very useful society, in connexion with the Manchester and Salford Sanitary Association, was held on Jan. 22nd, the Lord Mayor presiding. The objects of the society are to promote clean houses and cleanly personal habits. There are 23 paid visitors with the following duties: (1) The systematic visitation of babies and the instruction of the women in feeding them and as to their care generally; (2) instruction in cases of infectious diseases, especially consumption, coupled with seeing that the necessary precautions are taken; (3) the systematic visitation of the houses in the district; and (4) the distribution of leaflets on sanitary and other matters and the supplying of lime, whitewash brushes, sanitary powder, and carbolic soap. The instruction given is said to have been followed by a perceptible decrease in the infantile mortality. The committee also puts in a plea for more public washhouses. Everyone who knows much about the dwellings of the very poor in Manchester will heartily endorse this appeal. The Lord Mayor acknowledged the importance of public washhouses but said that the city council was unable to do all it might wish "with the rates at their present level." It might tend to the health of the community, and therefore to economy, if some little could be diverted from various showy but not absolutely needed projects to

providing more of these unobstrusive baths and wash-houses for the Manchester slum dwellers. The Bishop (Dr. Knox) referred to Birmingham and said that he had the satisfaction of knowing before he left that the work there, begun on the Manchester model, was extending. "An authority acknowledged to him that it was one of the best things done for the improvement of the health of the city." He thought there were great advantages in the voluntary superintendence of ladies over paid visitors. "They approached the work from a point of view which the purely official mind could not grasp, the point of view of one who longed to raise human nature to a higher plane and who was not bound by considerations of what the ratepayers would think of this or that expenditure." Both the Ladies' Health Society and the Sanitary Association could do more effective work with more funds and more helpers.

LITERARY INTELLIGENCE.—On the 15th of this month Messrs. Kegan Paul and Co. will issue a new monthly journal entitled "Our Hospitals and Charities Illustrated." It will endeavour to awaken and to stimulate interest in the work of our hospitals and charities, particularly amongst men and women of moderate income. It is to be essentially a journal for the public and all matters of controversy and technicality will be avoided. It is hoped that it will assist in preparing fresh ground for successful appeals on behalf of our hospitals and charities. The price will be 3*d.* monthly.—The fifteenth annual issue of "Burdett's Hospitals and Charities, the Year-book of Philanthropy and Hospital Annual," will shortly be published by the Scientific Press, Limited, 28 and 29, Southampton-street, Strand, London, W.C.

GUERNSEY NATURAL SCIENCE SOCIETY.—The introductory lecture at the commencement of the current session of this society was delivered by the President, Dr. John Aikman, the subject of discourse being Some Aspects of Light. He showed that in proceeding from the red end of the spectrum to the blue end the visible rays displayed progressive increase of refrangibility and of wave frequency. The heating power of the red rays, the actinic effect of the blue rays, and some of the properties of the ultra-violet rays and of Fraunhofer's lines were also explained. The discovery of radium and the phenomena of radio-activity manifested, though in a less degree, by other substances was touched upon, after which Dr. Aikman discussed the *rationale* of Professor Finsen's application of light in the treatment of disease.

COOKERY AND FOOD EXHIBITION.—The Universal Cookery and Food Association is holding its fifteenth exhibition at the Royal Albert Hall in April next from 26th to 29th inclusive, under the distinguished patronage of Her Majesty the Queen, the chairman of the council being Mr. J. C. Buckmaster and the chairman of executive Mr. A. Judah. Competitions for children, teachers, soldiers, and others, and demonstrations by experts will be of daily occurrence, while professional chefs, confectioners, and bakers will be represented by their best efforts in the respective departments. Exhibits also of every description of simple dishes will be shown in the household and artisan sections. Valuable prizes, including the £100 challenge trophy, and cash awards are offered. The schedule also comprises food products and commercial exhibits covering a wide range of subjects of interest to caterers, as well as to the general public.

CENTRAL MIDWIVES BOARD.—At a meeting of the Central Midwives Board held on Jan. 28th, Dr. F. H. Champneys being in the chair, letters were read from Mr. E. Hastings Tweedy, the Master of the Rotunda Hospital, Dublin, and from Professor J. W. Byers, physician to the Incorporated Belfast Maternity Hospital, calling the attention of the Board to the practical impossibility of pupil midwives trained in these institutions complying with the requirements of Section C. The answer of the Board has already been recorded in THE LANCET of Feb. 6th, p. 401, and in our present issue (p. 457) will be found the correspondence between Mr. Tweedy and the secretary of the Board. After consideration of applications for certificates the names of 1040 women were passed under Section 2 of the Act and ordered for entry on the Roll. Of this total 269 claimed as holding the certificate of the Obstetrical Society of London, 14 that of the Rotunda Hospital, 26 that of Queen Charlotte's Lying-in Hospital, 14 that of the Glasgow Maternity Hospital, 14 that of St. Mary's Hospital, Manchester, two that of the Liverpool Lying-in Hospital, one that of the Edinburgh Royal Maternity Hospital, one that of the City of London Lying-in Hospital, and 699 were admitted as having been in *bonâ-fide* practice for one year prior to July 31st, 1902.

NEWCASTLE-UPON-TYNE LYING-IN HOSPITAL.—The annual report of this institution has just been published and it shows that the progress which commenced in 1901 has been more than fully maintained during the past year. The total number of cases has increased from 380 in 1902 to 674 in 1903. The committee reports that the hospital has been recognised by the Central Midwives Board as a training school for midwives.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. W. P. Johnstone, M.B., C.M. Edin., J.P., Witwatersrand, South Africa, has recently been presented by the officers of the 1st Battalion Gordon Highlanders with a silver cigarette box suitably inscribed. Prior to this presentation he received a silver teapot, also suitably inscribed from Captain Shearman and Captain Poole of the 10th Royal Hussars, and several cases of surgical instruments from Captain Peck of the Royal Horse Artillery. Dr. Johnstone formed, and was in charge of, the temporary hospital at Maraisburg during the South African war.

DONATIONS AND BEQUESTS.—By the will of Mr. Edmond Dresden pictures and portraits are bequeathed to the Children's Hospital, Great Ormond-street, to be hung in the wards, as well as a sum of £25,000 for the maintenance of beds to be called the "Dresden Cots," which are to be contained in a ward to be called the "Dresden Ward." Middlesex Hospital, St. Mary's Hospital, the Royal Free Hospital, the Hospital for Consumption, Brompton, and Queen Charlotte's Lying in Hospital each receive a donation of £5000. Under this will a sum of £250,000 will be available for charitable purposes and each of the hospitals mentioned will, under certain conditions, receive further legacies.

SOME NOVEL PATENTS.—An American inventor has patented "an apparatus for disinfecting paper money, consisting of two endless aprons travelling in holding contact with each other, the contacting portions moving in the same direction, a series of moistening, feed, and heating rollers, around which the endless aprons travel, and means for applying the liquid disinfectant to the bills, as they are fed between the moving endless aprons, to be subjected to the action of the vaporised disinfectants." Another inventor has patented a comb for applying liquid to the scalp; it has a hollow back and teeth and the fluid issues from perforations in the points of the latter. Specifications and drawings of both of these contrivances are given in the *Official Gazette* of the United States Patent Office issued on Jan. 26th.

THE ANNUAL DINNER OF THE PAST AND PRESENT STUDENTS OF THE DURHAM COLLEGE OF MEDICINE.—This dinner was held in the County Hotel, Newcastle-upon-Tyne, on Jan. 30th, Mr. Frederick Page, professor of surgery, being in the chair. The principal guests were the Warden of the University, the Earl of Durham, the President of the College of Medicine, Professor R. Howden, and others. The dinner was well attended by past and present students, about 130 being present. The Earl of Durham, who is a great favourite with the students, in reply to the toast of "Our Guests," made a very interesting and amusing speech. He said that he was sure the college authorities all desired free trade in brains. They did not mind how much of the raw material was dumped down in the College of Medicine; he was sure that it would be turned out as a highly finished article and that in future they would be able to polish off their fellow creatures in the most scientific manner possible.

THE HEALTH FACTOR IN EDUCATION.—In a lecture on the Health Factor in Education delivered recently at Plymouth before the Teachers' Guild Dr. F. G. Bushnell discussed some questions which ought as much as possible to be impressed on the minds both of teachers and of the rising generation under their charge. He said that the Education Department had confined itself mainly to regulations intended to insure the physical well-being of children, had drawn up building rules which, he understood, were often disregarded, had provided for the exclusion of children or for the closing of schools

during epidemics, and had sanctioned a course of physical training conducted according to a specified system. It was obvious, however, that there were many respects in which regulations excellent in themselves and officially recognised as authoritative could only produce their anticipated effect when the teachers were really convinced of the practical value of such injunctions. The general hygiene of schools, and especially the ventilation of class rooms, required much attention and the system followed by the teacher constituted an object lesson which might be influential in forming the habits of the children. Teachers ought therefore before receiving their certificates to be required to show some acquaintance with the elements of hygiene and with the laws governing the spread of infectious diseases.

NEWCASTLE-UPON-TYNE CHILDREN'S HOSPITAL.—The annual court of governors was held on Feb. 2nd in the hospital. The amount of work done was about the same as in the previous year. The out patient department having become inadequate considerable additions to it are in course of erection and the fund for these extensions now amounts to £6207. During the past year the hospital has been most unfortunate in losing by death four of the most important and valued vice-presidents who were also the most generous donors to the hospital.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Physical Condition of Children.

On a date which has not yet been fixed Sir JOHN GORST will move that a select committee be appointed to inquire and to report as to the best method of keeping a record of the physical condition of children attending schools which are aided by Parliamentary grants.

Cancer Returns.

Mr. WEIR has been interesting himself in the question of the registration of cancer cases in India and he proposes to ask Mr. Brodrick whether the Indian Government has yet arranged to have such cases recorded separately in dispensary and hospital returns.

Private Members' Bills.

About 40 Private Members' Bills have been read a first time in the House of Commons this week. Two of the number affect the medical faculty, one being General Laurie's "hardy annual" for the amendment of the Medical Act of 1886 and the other the Revaccination Bill standing in the name of Sir John Batty Tuke. Mr. Long, on behalf of the Government, has intimated his intention to bring in a Bill to amend the Public Health Acts.

HOUSE OF COMMONS.

FRIDAY, FEB. 5TH.

Arsenical Poisoning.

Sir CUTHBERT QUILTER asked the President of the Local Government Board whether his attention had been called to the confirmation by the Royal Commission on Arsenical Poisoning of the opinions expressed in the Minority Report of the Beer Materials Committee issued five years ago, prior to the outbreak of the beer poisoning epidemic, that legislation or other provision was necessary to prevent the use of deleterious substances in the manufacture of beer and that a court of reference, as recommended by the Committee on the Adulteration of Food Products (a recommendation since endorsed also by the Food Preservatives Committee), should be established for fixing standards of purity for the purposes of the Sale of Food and Drugs Acts; and if so, whether he would say what action it was proposed to take to give effect to the recommendations of the Royal Commission, more especially as regards the protection of the public against the use of injurious ingredients in beer and the fixing of a standard of purity.—Mr. LONG replied: I had, before the issue of the report of the Royal Commission on Arsenical Poisoning, had under consideration the expediency of promoting legislation with a view to the constitution of a court of reference for the decision of certain scientific questions in relation to food of the kind referred to in the question and I had been in communication with the Board of Trade and the Board of Agriculture on the subject. I am continuing to give attention to the matter, but having regard to the large and important recommendations of the Royal Commission on Arsenical Poisoning I think it will be necessary that a conference should be held of representatives of the Government departments concerned before a decision as to the course to be adopted can be arrived at.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Drugs, their Production, Preparation, and Properties. By H. Wippell Gadd, F.C.S., Member of the Pharmaceutical Society and of the Society of Public Analysts. Price 5s. 6d. net.

Midwifery for Midwives. By W. Denison Wiggins, M.R.C.S., L.R.C.P., D.P.H., Assistant Medical Superintendent of the Greenwich Infirmary. Price 5s. 6d. net.

BOERICKE AND TAFEL, Philadelphia, U.S.A.

The Pathogenic Microbes. By M. Le Dr. P. Jousset, Physician to the Hospital saint-Jacques. Authorised translation of Horace P. Holmes, M.D. Price, cloth, $1.00.

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

Subjective Sensations of Sight and Sound, Abiotrophy, and other Lectures. By Sir William R. Gowers, M.D., F.R.C.P., F.R.S. (Lectures on Diseases of the Nervous System. Second series.) Price 6s. net.

FISCHER, GUSTAV, Jena.

Handbuch der Experimentellen Pathologie und Pharmakologie. Von Dr. med. R. Heinz, Privatdozent an der Universität Erlangen. Erster Band. Erste Hälfte. Price M.15.

Herz- und Kreislaufstörungen. Von Dr. Th. Rumpf, Professor e. o. an der Universität Bonn. (Vorträge aus dem Gebiete der Allgemeinen Therapie. Erstes Heft.) Price M.1.

GLAISHER, HENRY J., 57, Wigmore-street, Cavendish-square, W.

Charles White, F.R.S.: A Great Provincial Surgeon and Obstetrician of the Eighteenth Century. An address delivered before the Medical Society of Manchester, Oct. 7th, 1903. By Charles J. Cullingworth, M.D., F.R.C.P., &c., &c. Price 2s. 6d. net.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-89, Great Titchfield-street, Oxford-street, W.

Vaginal Tumours, with Special Reference to Cancer and Sarcoma. By W. Roger Williams, F.R.C.S. Price 5s. 6d. net.

LONG, JOHN, 13 and 14, Norris-street, Haymarket, London.

Nurse Charlotte. By L. T. Meade, Author of "Stories from the Diary of a Doctor," &c. Price not stated.

MALOINE, A., 23-25, Rue de l'École de Médecine, Paris.

La Torsion du Cordon Spermatique et l'Infarctus hémorrhagique du Testicule. Par le Dr. André Lapointe, Ancien Interne Lauréat des Hôpitaux de Paris. Price not stated.

MARLBOROUGH, E., AND CO., 51, Old Bailey, E.C.

Spanish Self-taught (Thimm's System). With Phonetic Pronunciation. Revised and enlarged edition. By W. F. Harvey, M.A. Price 1s., cloth 1s. 6d.

NEW SYDENHAM SOCIETY (Agent: H. K. LEWIS, 138, Gower-street, W.C.).

An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology. Compiled for the New Sydenham Society. (A Continuation of the "Atlas of Pathology.") Fasciculus XVIII. (Double Fasciculus). Being VIII. and IX. of the Clinical Atlas. Eruptions, &c., caused by Arsenic, Urticaria Pigmentosa, and Illustrations of the Phenomena of Leprosy. Price to non-members £1 1s.

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, 8, Hastings-street, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. New Series. No. 6. First Report of the Anti-Malarial Operations at Mian Mir, 1901-1903. By Captain S. P. James, M.B. Lond., I.M.S. (on Special Duty). Price 12 annas, or 1s. 2d.

PERLES, MORITZ, 1, Sellergasse, 4, Vienna.

Erfolge der Röntgentherapie. Mitteilungen aus dem Institute für Radiographie und Radiotherapie in Wien. Von Dr. Eduard Schiff, Professor an der Wiener Universität. Price not stated.

REDMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Progressive Medicine. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Volume IV., December, 1903. Price 15s. net. (Subscription for one year, £2 12s. 6d.)

SMITH, ELDER, AND CO., 15, Waterloo-place, S.W.

A Handbook of Ophthalmic Science and Practice. By Henry R. Juler, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital. Third edition, revised and enlarged. Price 21s. net.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Organes Genito-Urinaires de l'Homme. Par Henri Hartmann, Sous directeur des Travaux Pratiques de Médecine, Opérateur à la Faculté de Médecine. Price Fr. 15.

SWAN SONNENSCHEIN AND CO., Limited, Paternoster-square, E.C.

The Public Schools Year-book. With a Select List of Preparatory Schools. Fifteenth year of publication. 1904. Founded by three Public Schoolmen—Eton, Harrow, Winchester. Price 2s. 6d.

TREAT, E. B., AND CO., 241-243, West 23d-street, New York.

The Blues (Splanchnic Neurasthenia), Causes and Cure. By Albert Abrams, A.M., M.D. Heidelberg, F.R.M.S., Consulting Physician, Denver National Hospital for Consumptives. Price $1.50.

The Self cure of Consumption without Medicine. With a Chapter on the Prevention of Consumption and Other Diseases. By Charles H. Stanley Davis, M.D., Ph.D., Member of the Connecticut State Medical Society; Physician to the Curtis Home for Old Ladies and Children. Price 75 cents.

UNIVERSITY TUTORIAL PRESS (UNIVERSITY CORRESPONDENCE COLLEGE PRESS); Warehouse, 157, Drury-lane, W.C.

Matriculation Directory, No. XXXVI., January, 1904. With List of Text-books for use under the New Regulations. Price 1s. net

UNWIN, T. FISHER, 11, Paternoster-buildings, E.C.

Up-to-date Tables of Imperial, Metric, Indian, and Colonial Weights and Measures, Simple Suggestions for Metric Adoption, Imperial Decimal Coinage, &c. Compiled and written by Alfred J. Martin, Fellow of the Surveyors' Institution, England. Price not stated.

A Penny Supplement for Beginners to Martin's Up-to-date Tables, being a Guide to Simple Arithmetic, showing how decimals can be taught at a very early age.

VIGOT FRÈRES, 23, Place de l'École de Médecine, Paris.

Penseurs et Savants. Leurs Maladies. Leur Hygiène. Par le Dr. Gélineau Chevalier de la Légion d'Honneur. Préface du Docteur Cabanès Directeur de la *Chronique Médicale*. Price 4 francs.

Étude Médico-légale sur les Traumatismes de l'Œil et de ses Annexes. Par S. Baudry, Professeur de Clinique Ophthalmologique à l'Université de Lille. Troisième édition, revue et augmentée. Price 5 francs.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ANDREW, WILLIAM, M.B., C.M. Edin., has been appointed Medical Officer for No. 2 District of the Launceston Union.

AWDRY, WALTER ROBERT, M.S. Durh., M.R.C.S., has been appointed Honorary Surgeon to the Berkeley Hospital.

BATTEN, R. WINTERBOTHAM, M.D., F.R.C.P. Lond., M.R.C.S., has been appointed Honorary Consulting Physician to the Berkeley Hospital.

BLACKBURN, C. B., B.A., Ch.M., M.D. Sydney, has been appointed Assistant Physician, Royal Prince Alfred Hospital, New South Wales, Australia.

BOWES, T. A., M.D. Cantab., has been appointed Certifying Surgeon under the Factory Act for the Herne Bay District of the county of Kent.

CALCOTT, J. D. C., M.B. Lond., has been appointed to the post of Assistant House Surgeon at the North Staffordshire Infirmary and Eye Hospital, Hartshill, Stoke-on-Trent.

CAMERON, D., M.B., C.M. Edin., has been appointed Government Vaccinator at Henty, New South Wales, Australia.

FAIRFAX, E. W., M.B., Ch.M. Sydney, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Physician, Royal Prince Alfred Hospital, New South Wales, Australia.

GRAHAM, ARTHUR, L.R.C.P.E., L.R.C.S.E., L.S.A., has been reappointed Surgeon to the Southampton Dock Society and the Southampton Gas works.

GRANT, L., M.D., M.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Ballachulish District of the county of Argyll.

HARRIS, MATTHEW, M.B. Aberd., has been appointed Physician to the Wee Waa Hospital, New South Wales, Australia.

HEDLEY, A. S., M.B., B.S. Durh., has been appointed Certifying Surgeon under the Factory Act for the Rothbury District of the county of Northumberland.

LANCASTER, ERNEST LE CRONIER, B.A., M.B., B.Ch. Oxon., M.R.C.S. Eng., has been appointed Physician to the Swansea General and Eye Hospital.

LOVEGROVE, J. F., M.R.C.S. Eng., L.S.A. Lond., has been appointed Government Medical Officer and Vaccinator at Gunning, New South Wales, Australia.

MACINTOSH, A. B., M.B., Ch.M. Sydney, has been appointed Medical Superintendent, Royal Prince Alfred Hospital, New South Wales, Australia.

MILWARD, F. VICTOR, M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Medical Referee under the Workmen's Compensation Act for Birmingham, Bromsgrove, Redditch, and Solihull.

NOLAN, H. RUSSELL, M.B., Ch.M. Sydney, has been appointed Assistant Surgeon for Diseases of the Ear, Nose, and Throat, Royal Prince Alfred Hospital, New South Wales, Australia.

NUTHALL, A. W., F.R.C.S. Eng., has been appointed Surgeon to Outpatients to the Birmingham and Midland Free Hospital for Sick Children.

SALOMON, HENRY, M.D. Boston, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer to the Leicester Dispensary.

SERVICE, J., L.R.C.S., L.R.C.P. Edin., has been appointed Government Medical Officer and Vaccinator at Rylstone, New South Wales, Australia.

WILSON, J. CLARK, M.D., C.M. Edin., D.P.H. Camb., has been appointed Pathologist to Friedenheim Hospital, Upper Avenue-road, N.W.

YOUNG, H. C. TAYLOR, M.D., C.M. Glasg., has been appointed Assistant Gynæcological Surgeon, Royal Prince Alfred Hospital, New South Wales, Australia.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD UNION INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—House Surgeon. Salary £75 per annum, with board and attendance.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BIRMINGHAM, GENERAL HOSPITAL.—Surgical Casualty Officer. Salary £40 per annum, non-resident.

BIRMINGHAM QUEEN'S HOSPITAL.—Two House Surgeons, for six and twelve months respectively and one House Physician, for twelve months. Salaries at rate of £50 per annum, with board, lodging, and washing. Also one Obstetric and Ophthalmic House Surgeon for six months. Salary at rate of £40 per annum, with board, lodging, and washing.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100, with board, residence, and washing.

BRISTOL ROYAL INFIRMARY.—Resident Obstetric Officer. Salary £75 per annum, with board, lodging, and washing. Also Honorary Anæsthetist.

BURTON-UPON-TRENT, COUNTY BOROUGH OF.—Medical Officer of Health and Public Analyst. Salary £400 per annum.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c., for twelve months, one month's notice.

CARMARTHEN, JOINT COUNTIES ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

CHARING CROSS HOSPITAL.—Assistant Physician to Dermatological Department.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £70 per annum, with board, lodging, and washing.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, single. Salary £80 per annum, with board, lodging, and washing.

COUNTY COUNCIL OF MIDDLESEX.—Medical Officer of Health. Salary £700 per annum, with travelling expenses.

CROYDON GENERAL HOSPITAL.—Senior and Junior House Surgeons, unmarried. Salaries £105 and £60 respectively, with board, laundry, and residence.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary commencing £100 per annum, increasing to £120, with board, residence, attendance and washing.

GENTO HOSPITAL, Isle of Skye.—Resident Medical Officer. Salary £200 per annum, with house, coals, light, and taxes.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Resident House Surgeon. Salary £100, with board residence, and laundry.

HEIGHAM HALL, Norwich.—Assistant Medical Officer.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence.

HOSPITAL FOR WOMEN, Soho-square, London, W.—House Physician for six months. Salary £30.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, &c.

LANCASHIRE COUNTY ASYLUM, Winwick, Warrington.—Assistant Medical Officer, unmarried. Salary £150 per annum, increasing, with apartments, board, attendance, and washing.

LINCOLN GENERAL DISPENSARY.—Resident Male Medical Officer, unmarried. Commencing salary £150 per annum, with apartments, fire, and gas.

LIVERPOOL CHILDREN'S INFIRMARY.—Assistant House Surgeon for six months. Salary £22 10s., with board and lodging.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Bridge-road, S.E.—Head Dispenser.

SHEFFIELD CITY HOSPITAL FOR INFECTIOUS DISEASES.—Second Assistant Medical Officer. Salary £150 per annum, with board, lodging, and attendance.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Fourth Assistant Medical Officer. Salary £150, rising to £180, with board, &c. Also Fifth Assistant Medical Officer. Salary £140, rising to £160, with board, &c.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £80, with board, apartments, and washing.

Births, Marriages, and Deaths.

BIRTHS

BRIMACOMBE.—On Feb. 7th, at Colebrook Lodge, Putney Heath, the wife of Richard William Brimacombe, M.D., of twin daughters.

DAWSON.—On Feb. 4th, at Wimpole-street, W., the wife of Bertrand Dawson, M.D., F.R.C.P., of a daughter.

GALLOWAY.—On Feb. 7th, at 54, Harley-street, London, W., the wife of James Galloway, M.D., of a son.

HEY.—On Feb. 3rd, at Princess-terrace, Ripon, the wife of Samuel Hey, M.R.C.S., L.R.C.P., of a son.

MUDIE.—On Feb. 2nd, at Stuart House, Ely, Cambs., the wife of Walter Mudie, L.D.S.R.C.S. Eng., of a son.

SMITH.—On Feb. 5th, at Walden House, Watford, the wife of G. Francis Smith, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MARRIAGE.

THORNTON—SPOTSWOOD.—On Dec. 16th, at the Garrison Church, Maritzburg, George Thornton, M.D. Edin., M.R.C.P. Lond., D.P.H. Oxford, Medical Superintendent, Pretoria Hospital, Pretoria, Transvaal, to Myra Lyne, daughter of the late Dr. Maurice Spotswood, Cahirciveen, co. Kerry.

DEATHS.

BUSWELL.—On Feb. 7th, at Wolverton-gardens, Hammersmith, Richard Buswell, M.R.C.S.E., aged 76 years.

DOLMAN.—On Feb. 5th, at the Dispensary, Lincoln, Arthur James, M.R.C.S., L.R.C.P., eldest son of the late A. H. Dolman, Surgeon, of Derby, aged 31 years.

JONES.—At his residence, 2, Vauxhall Bridge-road, Feb. 3rd, 1904, Robert William Jones, M.R.C.S., L.R.C.P., &c., formerly of St. Thomas's Hospital.

SCOTT-WATSON.—On Feb. 8th, at Sidlands Lodge, Sidmouth, Charles Scott-Watson, M.R.C.S. Lond., aged 49 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

OVERCROWDING ON THE UNDERGROUND EAST-END TRAINS.

To the Editors of THE LANCET.

SIRS,—In an annotation in THE LANCET I once saw the statement that in the journey from Charing Cross to East Ham by the new connexion of the Underground with the London, Tilbury, and Southend Railway it was a common experience to find about 18 or more persons in a compartment who, besides enduring great discomfort, ran perilously near to being suffocated. Since then the overcrowding seems to have become worse. In one of the morning papers a correspondent recently wrote that "train-packing is becoming a fine art on the District Railway East Ham trains." I understand the object of a fine art to be to give pleasure, but the train packing on the East Ham trains gives decided pain. I hardly expect an international medical journal to devote more space to the complaints of an unimportant section of the London public, and yet there are a good many of us daily inconvenienced, while the public health aspect of the matter seems to me, a prejudiced sufferer, not without importance. A few days ago 32 of us rode in one compartment. Each compartment was built to seat ten people and even that not too comfortably, as many of the compartments are narrow, and in the most favourable circumstances the third-class passenger knocks knees with the passenger opposite. This railway serves to some extent what is, perhaps, the poorest part of London, so that certain of the passengers are evidently and necessarily uncleanly in their persons because of the character of their work. Others wear clothes suitable to their superior work and find the contact very annoying. No accusation of snobbishness can be founded upon this. A clerk must wear garments which are not improved by being closely pressed against oily or mucky corduroy. The breath, again, of some British workmen is highly charged with the odours of stale beer and rank tobacco. I do not despise the workmen because of this, but I ask you, Sirs, to commiserate with the less robust passenger who is not partial to those spicy flavours, for on the London, Tilbury, and Southend Railway he must perforce grin and bear the fumes, because the propagator of them is wedged within six inches of his mouth.

The way people are allowed to crowd into the carriages of this line in the busy hours of the morning and evening is nothing short of a standing disgrace to London and, though knowing nothing whatever about it, I doubt if troops will be conveyed from Moscow to Mukden in circumstances of greater hardship. I dare hardly imagine what would be the direful consequences in case of a collision on this mainly underground line. Many of the passengers are fastened in like sticks in a bundle of firewood and would be scarcely able to lift a finger to attempt to save themselves. Let the influential shareholders be wise in time and have a care and contemplate the possible amount of the damages they may be called upon to pay. It does not matter whether a passenger pays second- or third-class fare—he is suffocated and jammed just the same. A few of the first-class carriages are kept locked sometimes. Why this disgusting and appalling overcrowding should be permitted on this railway and on some other railways, and should be forbidden in omnibuses and tramcars travelling in open streets where there is considerably more fresh air, is beyond comprehension. A railway company should no more be allowed to take money for accommodation which is not provided, and which the company knows is not provided, than any ordinary trader is allowed to take and to keep money for goods that he cannot supply.

Is there not a public health side to this matter which will encourage you to call further attention to a scandal? The risk of infection by inhalation of germ-laden breaths is surely much exaggerated when 32 passengers ride in a box improperly constructed to hold ten.

I am, Sirs, yours faithfully,

Feb. 11th, 1904. SARDINE.

*** Our correspondent has our sincere sympathy. A railway company seldom listens to isolated complaints from however many points such complaints reach them. What is wanted is combination among the passengers to insist upon the reform of a condition of affairs which, as described by our correspondent, must be insanitary. —ED. L.

A NEW FORM OF SCABIES.

WE have received the copies of an interesting correspondence which has taken place between the East Suffolk County Education Committee and Dr. C. W. Low, medical officer of health of the Stowmarket urban and rural districts. The first letter informs Dr. Low that "scabies is very prevalent in the B—— school and he is requested to send" an order for the necessary closing of the school whilst the disinfection of the buildings is proceeding." Dr. Low very properly wrote back to say that he could not give an order for closing the school but could only recommend the issue of such an order, if he thought it to be necessary, to the rural district council, in which body alone such discretion is vested. He added, however, that he had made a careful investigation at the school where scabies was stated to be prevalent and had satisfied himself that no single case of the disease had occurred there. On interviewing the mistress of the school he had learnt from her that three children only had been absent by reason of the alleged outbreak of scabies and that no medical evidence of the nature of the disease had been obtained. A local druggist had given a certificate to a parent of the absentee children, which certificate the parent refused to show or to surrender. Dr. Low accordingly visited the home of the absentee children, examined them, and could detect no trace of the alleged disease. He then, in the interests of the Education Committee, instructed another medical man to visit the children in order that a proper medical certificate might be obtained as to the nature of their ailment. This was done and the medical certificate showed that the children were "suffering from a little dry, scaly eczema. ..... I cannot find a trace of scabies even with a very strong glass." Dr. Low closes his communication by requesting the education committee to pay certain out-of-pocket expenses and a fee of one guinea to himself for services not involved in the duties of his office. Then follows a copy of the druggist's letter, in which the word "scabies" is not used, the lay distributer of medical certificates, confining himself to the opinion that "as the skin affection your boys are suffering from is of a contageous nature I think it is your duty not to send them to school until quite cured." Lastly comes a letter from the East Suffolk County Education Committee, very properly acknowledging Dr. Low's services and admitting that fees are due to him and to the second medical man who examined the children.

The story is very instructive as showing the trouble that can arise to a community by the habit that certain druggists have of assuming medical functions. Here is a druggist who is shown that very ordinary condition, a little dry eczema of the scalp, and at once certifies it as contagious skin disease, during the progress of which the patients must not be sent to school. From this fact arises a report that scabies is prevalent in the school and on this follows the natural and reasonable suggestion from the local authority that the school should be closed. And so because a druggist chooses to make an excursion into medicine the education of the children of the district comes near to being dislocated. The functions of a pharmaceutical chemist do not include the diagnosis and treatment of cutaneous, or other, diseases or the giving of medical certificates.

SANITATION IN CUBA.

IN an official report which is published by the *Archives de Médecine Navale* for December, 1903, Dr. Pungier of the French navy gives a very interesting account of the sanitary ameliorations which have resulted from the American occupation of the island of Cuba. A few years ago, he says, Santiago had a most unenviable reputation for insalubrity. Scavenging was unknown, there were no drains either on the surface or beneath it, household refuse thrown out of doors putrefied in the streets, and in every hollow there was a stagnant pool. Close to the town on its western side a vast swamp exhaled foul emanations and afforded a breeding place for myriads of mosquitoes. Malaria reigned supreme and yellow fever was permanently established. The annual mortality, according to Dr. Caminero, was at the rate of 34 per 1000. The American soldiers had no sooner taken possession of the place than at once the medical officers began to remedy this disastrous condition of things. The measures which they adopted were sufficiently drastic and necessitated the expenditure of 60,000 dollars a month. Live stock of every description was banished from the town or, as Dr. Pungier expressively puts it, "dogs, poultry, and cattle were suppressed." Where it was possible to do so ponds were filled up or drained, while swamps too extensive to be dealt with after this fashion were deluged over and over again with petroleum. Pending the construction of a network of sewers, for which a contract, to be completed in five years, was given to a local company, a system of conservancy was organised for the daily removal of filth. Lime-washing and carbolic acid sprinkling were freely employed inside the habitations as well as outside and in a word all the latest innovations for insuring the public health were carried out. The beneficial effects of these measures, which were supplemented by judiciously applied regulations for the treatment and control of epidemic diseases, were not long in making themselves felt. Yellow fever disappeared as if by magic, the last case which occurred having been noted in December, 1899. Paludism has diminished to a wonderful extent; Dr. Pungier was assured by a competent authority that the only cases now observed took place amongst workmen who are employed on the railway to Havana. From 34 per 1000 the mortality has fallen to less than 15 per 1000 per annum. Instead of being an exceptionally insalubrious town Santiago may now be called one of the most healthy in the world. In Havana, which was also inspected by Dr. Pungier, the Americans, he says, have succeeded in accomplishing marvels. Like Santiago, the capital of Cuba was formerly the home of paludism and yellow fever, its sanitary condition, owing to the remains of its extensive fortifications which shut out the sea breezes and excluded light and air, being, if possible, more deplorable than that of the former town. The whole of the obstructive ruins has now been removed to make way for verdant lawns and spacious tree-planted promenades and boulevards. The existing sewers have been thoroughly overhauled but can only be regarded as a makeshift pending the installation of more up-to-date constructions. In dealing with the sanitation of private residences

in Havana the Americans, says Dr. Pungier, have exhibited a rigour which was absolutely draconic. Rich and poor were treated alike; 22,200 houses were cleansed and put in order from basement to garret, water-closets according to a uniform pattern, with ventilating shafts opening above the roof, being established in each. Soiled hangings and unclean furniture were pitilessly thrown into the streets by the sanitary agents, but the results have been most brilliant. During the 11 years from 1890 to 1900 the average annual number of deaths in Havana from yellow fever was 467, in 1901 there were five deaths from that disease, and in 1902 there were none. In 1899 the deaths due to malaria numbered 909, in 1900 the deaths from that cause amounted to 325, in 1901 to 151, and during the first ten months of 1902 to 73. In conclusion Dr. Pungier describes the Quinta de Salud Covadonga hospital for 500 patients. "I have inspected," he says, "the Charity at New Orleans, the Johns Hopkins at Baltimore, and the New York and the St. Luke's in New York, but none of these hospitals gave me the same impression of comfort and intelligent luxury or anything like it as I felt when visiting the new hospital at Havana."

THE CONTROL OF THE MANUFACTURE OF AERATED WATERS.

IN a leading article in THE LANCET of July 4th, 1903, p. 40, we dealt with a very important report presented to the London County Council by Dr. W. H. Hamer upon the conditions under which aerated waters are manufactured. A resolution was ultimately adopted by the Council in favour of forwarding a copy of this report to the Local Government Board, together with an expression of opinion that legislation was desirable in order to secure the manufacture of aerated water under sanitary conditions. The Council having received no intimation from the Local Government Board as to whether it was its intention to promote legislation in the direction indicated decided at a recent meeting again to communicate with the Local Government Board with the view of urging upon it the importance of the matter and the desirability of introducing a Bill upon the subject in the present session of Parliament.

THE LAW UNION AND CROWN INSURANCE COMPANY AND ITS MEDICAL EXAMINERS.

WE have received further communications from medical men to whom the district managers of the Law Union and Crown Insurance Office have suggested that they should examine persons proposing to insure their lives for less than £200 at a reduced fee of half a guinea. One medical man informs us that he has refused to comply with the view of the district manager and has expressed his surprise at the innovation. Another correspondent makes the cynical suggestion that he should take the reduced fee and give the company reduced service for it. For a fee of half a guinea he considered that the company ought to be satisfied if he half examined the proposer. This gentleman has logic on his side. If the company hucksters it cannot complain that huckstering is practised against it. In trade if a person is prepared to pay only half he can purchase only half, and the Law Union and Crown Insurance Company has approached medical men in a trade spirit. Of course, no member of our profession would sign a document in the nature of a certificate of health without making adequate examination, so that the company is saved the risk of accepting proposals from persons whose family history and livers, say, have been examined into but whose chests and urines remain unassayed. The retaliation, though impossible, is, as we have said, logical.

CLUB PRACTICE MEDICINE.

To the Editors of THE LANCET.

SIRS,—If Hunyadi Janos water be prescribed by a club medical officer for his patient to take it for some time is such water considered medicine or not? I am, Sirs, yours faithfully,

Feb. 9th, 1904. INQUIRER.

*** We cannot, of course, tell what views the committee of the club in question would hold on the point, but the water named certainly is a medicine.—ED. L.

CHILDREN AND FIRE.

NOTWITHSTANDING the frequent occurrence of inquests on children who have been the victims of flannelette numbers of people are sceptical as to its dangers. But they are chiefly well-to-do people who do not leave their little ones where the grate is without a fire-guard while there is no one to see to their safety. It is happily but seldom that such an object lesson occurs as in Manchester the other day. Three inquests were held on Jan. 23rd by the city coroner on three children, each two years of age, in three different parts of the city, who were burnt to death from their flannelette clothing catching fire. One little girl was acting as nurse and rocking her baby brother close to the fire, where there was no guard. The mother thought a cinder had set the child's flannelette nightdress on fire. The other cases were from playing with fire, which has an irresistible fascination for most children. Mr. E. A. Gibson, the coroner, said that in all probability they would not have died if they had not been wearing this dangerous material. "It flamed up like gunpowder and it was almost impossible to extinguish the blaze before great injury had been done." It is cheap and warm, which of course makes it popular, but it might easily and inexpensively be rendered non-inflammable, and it is quite time that the authorities should prevent its sale unless this is done. There is such a material on the market that goes by the not very attractive name of "Non Flam," but we fancy that its sale is small compared with that of the ordinary variety. Mr. Gibson showed some to the jury and applied a light to samples of each; the flannelette immediately burned into a blaze, while the other was proof against the light. As he said to the jury, "It was perfectly heartrending to have a list like that with three small children all burned on the same day from the same cause." Apart from the question of inflammable dress materials the provision of fire-guards when children are left alone in rooms where a fire is burning should be enforced by law.

THE STANDARDISING OF SEWAGE.

WE understand that with the approval of the Council of the Sanitary Institute Mr. Scott-Moncrieff's sewage-testing apparatus can now be seen in the Parkes Museum. The apparatus has been designed for the purpose of obtaining exact information upon which to base bacterial sewage disposal schemes, particularly as to (1) the depth of filter required to produce the necessary standard of purity in the effluent; (2) the quantity of air necessary for the life processes of the organisms in the filter; (3) the correct rate of flow per unit of filter-bed surface in order to obtain the best results; and (4) the best period of rest between each discharge to prevent gelatinous growths in the filtering material.

"FILTHY LUCRE."

OUR annotation under this heading in THE LANCET of Feb. 6th, p. 381, has attracted considerable attention and we have received some correspondence upon the subject in which the writers cordially approve of our suggestion that in those places where banks receive a large number of coins in bulk which are subjected to the defilement of fish, meat, and other more or less dirty traffic, such coins should be cleaned in some simply designed washing apparatus before being returned to circulation. We understand that at a certain bank near Billingsgate Fish Market some such cleansing apparatus is adopted. Several of our correspondents mention an invention of their own for this purpose. We cannot consider the merits of these or advise as to whether their apparatus would bring any substantial reward to the respective inventors. They should consult a respectable patent agent or communicate with the banks. We may repeat, however, that if a cheap and handy machine were devised and adopted for rapidly washing and scrubbing coins at the bank it would amount to a great public benefaction and would be a step of the highest sanitary importance.

A JURY OF MATRONS.

IT is rare nowadays to see empanelled a jury *de ventre inspiciendo*. From very ancient times—long before the advent of the registered medical practitioner—it has been the law that when a woman sentenced to death pleads pregnancy as a bar to execution, a jury of matrons or discreet women shall be called together to examine her and to advise the judge whether or not she is "quick with child." In latter days this procedure has dropped into disuse and the evidence of medical men has been substituted. It was therefore of some interest to see the old custom revived at the last Lancaster Assizes. With the help of the medical officer of the prison the matrons performed their duties in a very short time and having found in the negative were duly discharged.

FURTHER OBSERVATIONS ON THE VALUE OF GARLIC AS A TREATMENT FOR TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Having read the most interesting article by Dr. Giulio Cavazzani upon the action of garlic as a prophylactic in cases of tuberculosis which appeared in THE LANCET of Jan. 9th, p. 90, and in which he expresses the hope that it may lead to a discussion upon the subject, I beg that you will allow me to record a brief account of my experiences with it as a remedy in almost all forms of tuberculosis, as I believe the results obtained from it are more encouraging than from any other treatment yet brought forward.

In the *Medical Press and Circular* (Dublin, June 4th, 1902) I published a paper giving some of my experiences with garlic as a remedy for tuberculosis in its various forms. After this publication I was made aware that Dr. G. V. Poore of University College Hospital, London, had already recommended that garlic should be taken internally in pulmonary tuberculosis in his book "Nervous Affections of the Hand and other Studies" (published by Smith, Elder, and Co., 1897), p. 275; also that Dr. Cavazzani had recommended it to be similarly used in a publication in a foreign journal in 1901. The fact of the discovery of its utility being made in three places so remote from one another and quite independently is in itself good evidence, I think, of its virtues in this disease.

When I first commenced to use this substance in the treatment of tuberculosis, now something over five years ago, I administered it internally with varying success. I met with very gratifying results in some cases, usually very early cases or old-standing fibroid cases, but the majority of acute cases showed little or no improvement. I then, in combination with the internal treatment, employed an inhalation of garlic, applying the juice to the sponge of an inhaler (such as is recommended by Dr. I. Burney Yeo for use with antiseptic inhalations) made of perforated zinc. I advised the inhalation to be carried on continuously for many hours daily. I have had some very remarkably successful cases with this treatment and I can strongly recommend a trial of it. This treatment is suited to similar cases to

those above mentioned and with such will give most satisfactory results, yet it leaves much to be desired.

Since the publication of my paper in 1902 I have further discovered that garlic when applied locally is freely absorbed by the skin and penetrates to the deeper tissues, and I have had very gratifying results from the application of poultices of freshly pulped or pounded garlic over diseased areas, and I now employ these three methods combined in pulmonary cases with much success. Garlic when applied in this manner acts as a strong blister, the various varieties of it being of widely different strengths. Some varieties will blister in from four to six hours, whilst others take 24 hours or even longer.

It may be advanced that its beneficial effects when applied in this manner are due to its action as a blister, whilst also a certain amount of inhalation takes place. I think, however, it is absorbed by the skin, penetrating to the deeper tissues, as I have had remarkable success with it in cases where the inhalation had failed. Further, it is a most successful treatment when applied locally to any tuberculous lesion, such as a joint, tuberculous glands, &c., even though the skin be unbroken. The garlic when pulped or pounded and applied in this way appears to act more beneficially than the fresh juice. Cases of laryngeal tuberculosis if not very far advanced rapidly yield to the application of garlic either by gargle, or spray, or internal administration (or combined), accompanied by a poultice (or blister) of pulped garlic externally. It is an excellent treatment for lupus, and has the advantage that it can be applied to almost any part and over a very extensive lupoid area. Where it can be borne, a blister of pulped garlic is the best and most rapid mode of treatment, leaving it on three or four hours and re-applying in a few weeks, but it can be very efficiently treated with the fresh juice as I described in my paper in the *Medical Press and Circular*. This method has the advantage of not being at all severe but it is not nearly so rapid in its results. Garlic is a powerful germicide worthy of the careful consideration of bacteriologists and I have the strongest reasons for believing that a poultice of it applied over the seat of inoculation and also given internally will prevent the development of hydrophobia in a person bitten by a rabid animal. Dr. Poore in his work "Nervous Affections of the Hand and other Studies," p. 275, states: "The allyl compounds, such as allylic alcohol and oil of mustard, were shown by Koch to be strongly antiseptic and to have a remarkable power of inhibiting the growth of the bacillus anthracis." The farmers in this part of the country largely use garlic for the treatment of symptomatic anthrax, or "blackleg," in cattle and it is most effective.

The London Pharmacopœia formerly recognised garlic and some preparations of it are still officinal in the United States Pharmacopœia. It is described as being an antiseptic, an expectorant, a rubefacient, a diuretic, an antispasmodic, and a carminative. It contains a volatile oil—sulphide of allyl—to which it possibly owes its virtues. In an old work on therapeutics to hand, by J. Moore Neligan, M.D., 1851, he states that "garlic consists of an acrid volatile oil, fecula, albumen, and a saccharine matter; its medicinal properties depend on the volatile oil, which is heavier than water, of a yellowish colour, and a very penetrating odour; it is composed of six atoms of carbon, five of hydrogen, and one of sulphur" (Wertheim). He further recommends it as an excellent remedy in ascarides.

It is, of course, a very harmless substance (especially when diluted) in doses of the juice from half a drachm to one drachm two or three times daily. The addition of a little tr. lavand. co. and syr. simplex makes a fairly palatable mixture, the former masking the odour to a great extent. An infusion with milk is a favourite way of taking it. Half an ounce to one ounce of the bulb may be taken in this way daily.

One word of warning I must give regarding its use. I have found some surgeons (to whom I recommended the local application of garlic to tuberculous joints, &c.) fell into the error of injecting the fresh juice with a hypodermic syringe into the joints, &c. This should never be done, as owing to its vesicating action a violent inflammation will at once be set up. The local application should be altogether external but may be applied over a broken surface of skin and is not then much more severe than if the skin remains unbroken.

As some persons are rather susceptible to its blistering effects it is well not to leave the first poultice on more than four hours, after which it will be more easy to judge the length of time to leave the other poultices, which will require to be repeated frequently at intervals of three or four weeks to check the disease in the deeper tissues. The more severely it is blistered the more rapidly will the disease be checked, I think. The blistered surface heals quickly under any ordinary oily application.

Such a powerful germicide as garlic, which is freely eliminated by the lungs as well as being freely eliminated and absorbed by the skin is, I think, a most reasonable one to use in the manner above described in such a disease as this under consideration, especially when one considers its harmless nature.—I am, Sirs, yours faithfully,

Kells, co. Meath, Jan. 25th, 1904. WM. C. MISCHIN, M.D. Dub.

DIET IN ITALIAN NAVAL HOSPITALS.

THE *Annali di Medicina Navale* for December, 1903, contain a long article on diet in the Italian naval hospitals by a medical officer of the first class V. Tiberio who is in charge of the pathological laboratory at Venice. There are, it would seem, four diets, named, respectively, entire, three-quarter, half, and quarter. In all the ingredients are pretty nearly the same, the chief differences being in quantity. The question of the nutritive value of each diet is exhaustively treated comprehension being assisted by a series of very elaborate analytical tables. The main conclusion arrived at is that on the whole the several diets are fairly sufficient but that in some particulars they are not quite in accordance with the teaching of modern dietetics. It may be noted that all the diets include an allowance of wine which is thus specified: "The wine shall be of the best quality, made in Italy, red, genuinely pure, perfectly sound, free from acidity and mouldiness, without bad smell or bad taste of any kind whatsoever, pleasant to the taste, at least a year old, of not less than 12 degrees of alcoholic strength, and costing 40 centimes the litre."

THE VIAVI TREATMENT.

To the Editors of THE LANCET.

SIRS,—Can you tell me anything of the above? I had an idea I saw something about it in an old copy of THE LANCET but cannot find it. Was it dealt with in *Truth*? Some of my friends speak of it enthusiastically, hence my query. I am, Sirs, yours faithfully,

Feb 8th, 1904. SCEPTIC.

*** The Viavi Treatment is undiluted humbug and quackery. Our correspondent will find our opinion of it in THE LANCET of Jan. 17th, 1903, p. 211. *Truth* has also dealt with the matter.—ED. L.

Bathavon.—(1) The titles are synonymous and therefore (2) any one of them can be used. (3) A qualified medical man is qualified to practise medicine in the wide sense of the word in all its branches. It is not usual for a medical man to assume the designation of a specialist—ophthalmic surgeon or dentist, for example—without having undergone special training or enjoyed special opportunities, but we do not think such assumption would be construed by the General Medical Council as a professional offence.

Hon. S. Coleridge.—We do not intend to insert any letter from a correspondent who founds upon an obviously accidental and completely unimportant slip accusations of deliberate immorality. Mr. Coleridge can publish his letter elsewhere, can shriek that we have refused him a hearing, and can try to persuade people that we have acted from innate vileness. It is his own complete discourtesy that has decided us to ignore his communication.

Mr. H A. Matheson.—The preparation about which our correspondent inquires was examined some years ago in our laboratory. It is a weak solution in water of sulphurous acid gas (SO_2).

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY 16th.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY 17th.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY 18th.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY 19th.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY 20th.—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES

MONDAY (15th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square W.).—9 P.M. Mr. C. B Lockwood: Aseptic Surgery in Theory and Practice. Lecture II.—Materials and Dressings. (Lettsomian Lecture)

TUESDAY 16th.—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Card Specimens will be shown by Dr. J. H. F. Broadbent and Dr. J. R Lunn Discussion on Arterio-sclerosis (opened by Dr. T. D. Savill). Prof. T. C. Allbutt, Mr. C. A. Ballance Sir William Broadbent, Dr. J. H. F. Broadbent Dr. Herringham, Dr. Mott, Dr. G. Oliver Dr. W. Russell, Dr B Shaw, Dr B. Thorne and Dr P. Weber will take part in the discussion.

WEDNESDAY (17th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr C. L. Curties: Exhibition of Specimens of Marine Objects mounted by Mr. H. J. Waddington Papers:—Mr. E. M Nelson: (1 On the Vertical Illuminator; (2) The Influence of the Antipoint on the Microscopic Image shown Graphically.—Mr K. Lucas: A Microscope with Geometric Slides.

ROYAL METEOROLOGICAL SOCIETY (Institute of Civil Engineers, Great George-street, Westminster, S.W.).—7.30 P.M. Papers:—Mr. E. Mawley: Report on the Phenological Observations for 1903.—Mr. W. H. Dines: Observations by means of Kites at Crinan in the Summer of 1903.

FRIDAY 19th.—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. M. Coplans: The Etiology of Scurvy.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. T. C. Eughish: The After Effects of Head Injuries. (Hunterian Lecture.)

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr J. Galloway: Clinique. (Skin.) 5.15 P.M. Dr G. A. Sutherland: Albuminuria and Neurasthenia at Puberty.

UNIVERSITY OF LONDON.—5 P.M. Lecture: Dr. A. E. Wright: Physiology of Immunisation.—Anti-typhoid Inoculation.

TUESDAY 16th.—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. M. Moullin: Anterior Displacement of the Uterus.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Clinique (Medical.) 5.15 P.M. Dr. G. A. Sutherland: Albuminuria and Neurasthenia at Puberty.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, Bloomsbury).—3.30 P.M. Sir W. Gowers: Cases in the Wards.

WEDNESDAY 17th.—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof T. C. Englisb: The After-Effects of Head Injuries. (Hunterian Lecture.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road W.).—5 P.M Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Owen: Clinique (Surgical.) 5.15 P.M. Mr S. Stephenson: Some of the Newer Remedies in Eye Disease.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. B. Shaw: Non tubercular Apical Disease of the Lungs.

LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—4 P.M. Lecture:—Diseases of the Stomach. (Post-Graduate Course)

THURSDAY 18th. POST-GRADUATE COLLEGE (West London Hospital Hammersmith road, W.).—5 P.M. Mr. P. Dunn: Ulcers of the Cornea their Varieties and Treatment.

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique (Surgical.) 5.15 P.M. Mr E. Clarke: Errors of Refraction, their Diagnosis and Treatment.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M Mr. A C. Butler-Smythe: Movea ble Kidney.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Willcocks: Demonstration of Medical Cases (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Dr. T. N. Kelynack: Principles and Practice of the Sanatorium Treatment of Consumption. (Post Graduate Course)

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.). 6.15 P.M. Dr. M. Dockrell: Fungus Diseases of Skin. (Chesterfield Lecture)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M Mr. Colman: Cretinism.

COUNCIL OF LEGAL EDUCATION (Old Hall, Lincoln's Inn).—8 P.M. Dr. F. J. Waldo: Medical Jurisprudence. Lecture VI.—Toxicology.

NORTH EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital N.).—4.30 P.M. Dr A. Giles: Interpretations of Symptoms.

FRIDAY 19th. ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. T. C. Eughish: The After-Effects of Head Injuries. (Hunterian Lecture.)

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Skin Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr D. Grant: Clinique. (Ear.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M Dr. R Russell: Tabes Dorsalis.

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Letters relating to the publication, sale and advertising departments of* THE LANCET *should be addressed "To the Manager."

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II of 1903, which was completed with the issue of Dec. 26th, were given in THE LANCET of Jan. 2nd, 1904.

VOLUMES AND CASES.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 11th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Feb. 5	29·50	S.W.	0·01	75	49	42	43	44	Cloudy
,, 6	29·46	S.W.		52	48	42	42	44	Cloudy
,, 7	29·61	W.	0·06	72	47	36	35	36	Fine
,, 8	29·00	S.W	0·21	69	51	36	43	45	Cloudy
,, 9	29·09	S.W		74	46	41	43	44	Raining
,, 10	28·95	S.W	0·49	78	50	39	42	44	Cloudy
,, 11	29·07	N.W.	0·21	46	43	41	39	41	Overcast

During the week marked copies of the following newspapers have been received *Sunday Sentinel (Milwaukee), Highland News, Cork Constitution, Evening News (Portsmouth), Cork Examiner, Aberdeen Daily Journal, Aberdeen Free Press (Weekly), Westminster Gazette, West Cumberland Times Carlisle Journal, Dublin Evening Mail, Daily News Surrey Advertiser, Bristol Mercury Dublin Express, Morning Post Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, Burton Chronicle, Army and Navy Gazette, Medical Examiner, Knowledge, Illustrated Scientific News, &c.*

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